# RoyalTek
# Bluetooth GPS
# Datalog Receiver

## RBT-2300

## User Manual

V1.0

SiRF Star III GPS Engine Inside

Published on July, 2007 by RoyalTek Company Ltd.

**Design and specification are subject to change without notice.**

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# 1. Product Introduction

## 1.1 Overview

RoyalTek the first *SiRF Star III* Bluetooth GPS datalog receiver, *RBT-2300*, is the successor of well-known *RBT-2300* Bluetooth GPS datalog receiver in 2007. It uses *SIRF Star III* low power extreme fast TTFF GPS engine and inherits the previous strength point by using the same battery (Lithium-ion battery) of Nokia 6100 cell phone. With the same dimension of 72(L) x 42(W) x 25mm(H) and weight only 62g, making it an ideal solution to carry everywhere.

## 1.2 Main Features

- *SiRF Star III* GPS chipset
- 20 parallel channels
- NMEA0183 compliant protocol
- Extreme fast TTFF at low signal level.
- Adopt TCXO as GPS core clock source
- Industrial Standard
- Selectable Baud Rate
- WAAS/ ENGOS is supported

## 1.3 Product Notification

- Operating temperature range -10 ºC to +60 ºC
- Charger operating temperature range 0 ºC to +60 ºC
- Battery Storage temperature range -20 ºC to +70 ºC
- 8hr at full charge continuous operation mode.
- Humidity range up to 95% no condensing

## 1.4 Application

- PDA and Cellular Phone Navigation
- Consumer wireless GPS
- Automotive Vehicle Tracking
- Personal Positioning
- Sporting and Recreation

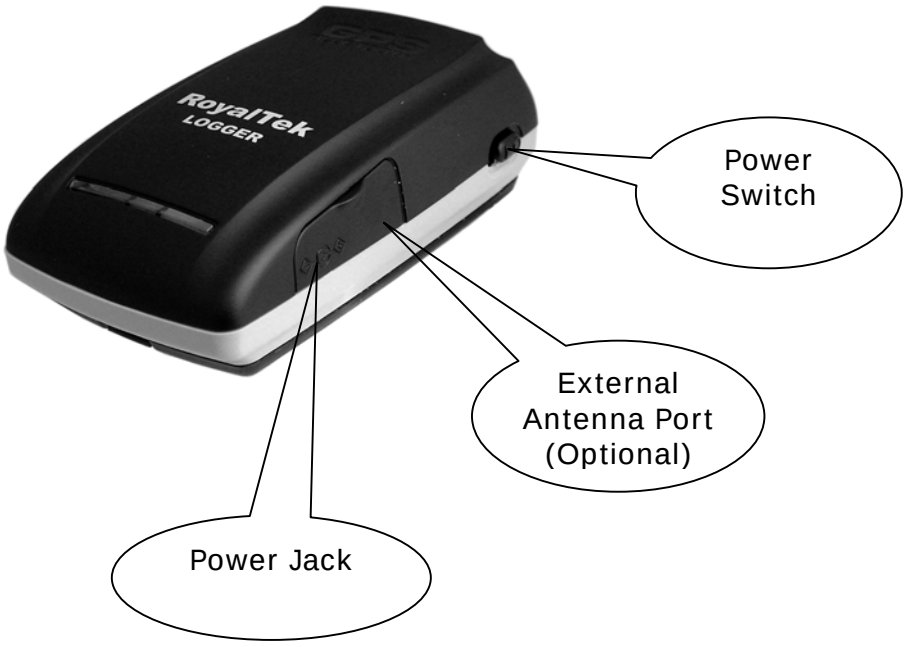
# 2. Before Start

## 2.1 Check the Package Content

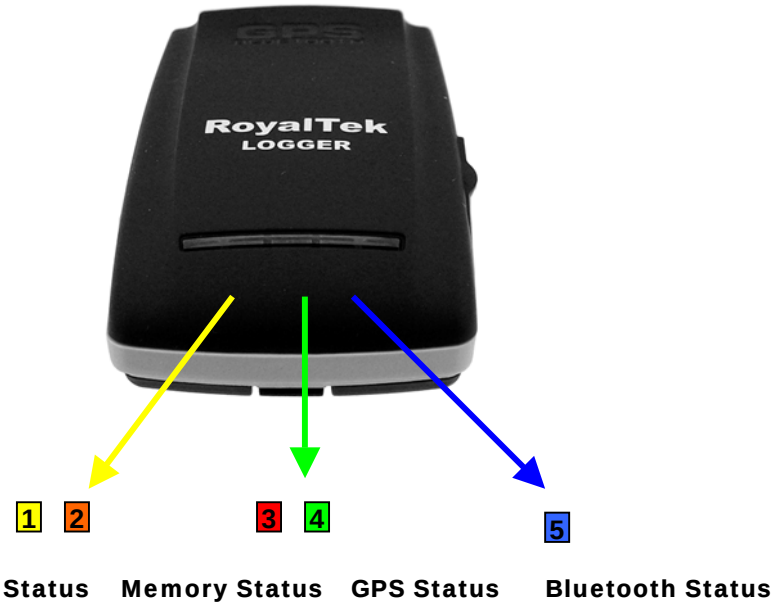
Before you start using *RBT-2300*, please check out if your package includes the following items. If any item is damaged or missed, please contact your reseller at once.

● RBT-2300 Bluetooth GPS datalog receiver ● Car Charger (optional)
● CD ● AC Adapter(optional) ● External antenna(optional)
● Backup battery(optional)

## 2.2 Power Switch, Power Jack & External Antenna Port



## 2.3 LED Display




| | | |
|---|---|---|
| 1 | | Yellow LED indicates power is in charging |
| 2 | | Blinking Amber LED indicates low power |
| 3 | | Glowing RED LED indicates Memory Full (GPS Green LED off) |
| 4 | | Glowing Green LED indicates position is fixed<br>Blinking Green LED indicates position not fixed |
| 5 | | Glowing Blue LED indicates Bluetooth is connected<br>Blinking Blue LED indicates Bluetooth is not connected |

## 2.4 Hardware Features

### 2.4.1. Power Switch

Power ON / Power OFF

### 2.4.2. Power Jack

The power jack allows you to connect to either a DC (included) or AC power charger to recharge the internal battery.

### 2.4.3. Bluetooth Status LED (Blue)

Glowing - Bluetooth is on and ready to transmit.

### 2.4.4. GPS Status LED (Green)

Glowing - Position is fixed.

Steady light – Device is on but position is not fixed.

When Memory full, the GPS Green LED is off.

### 2.4.5. Memory Status LED (Red)

Glowing – Memory is full.

RED LED blinking when erasing memory data.

### 2.4.6. Battery Status LED (Amber/Yellow)

None - Battery has adequate power supply.

Amber - Power is low. Charging immediately is required.

Yellow - Connected to power charger, charging.

LED off - Battery is fully charged.

## 2.5. Getting Started

### 2.5.1. STEP 1: Charge the Battery

Before you use *RBT-2300*, the battery must be charged for at least 4 hours. Plug car charger into power jack and cigar-lighter separately. As *RBT-2300* is in charging, the Yellow LED will be lighted up. When the battery is fully charged, the Yellow LED will be turned off. Unplug car charger from power jack and cigar-lighter separately.

### 2.5.2. STEP 2: Turn on Receiver and Wait for GPS Fix

If the position has not been fixed yet, the Green LED will be still. If the position has been fixed, the Green LED will be Glowing.

You are ready to connect to your Bluetooth-enabled mobile device and use your GPS application.

### 2.5.3. STEP 3: Connect to Bluetooth-Enabled Devices

From your Bluetooth-enabled handheld device, execute Bluetooth application software to search *RBT-2300* and then connect it to your device. If the connection between your device and *RBT-2300* is successful, the Blue LED will be Glowing.

*Note: Type in pin code=0000 during configuration.*

### 2.5.4. STEP 4: Connect to your Navigation Software

- Load your GPS mapping or routing software, along with the corresponding maps of the areas that you are occupying or plan to travel to.
- Start the application. Make sure the application is set for the COM port that your Bluetooth-enabled mobile device will use for serial communication. Now you should be ready to use your GPS application as directed by the user documentation that came with the software. More configurations may be necessary.
- Refer to the following software application user manual to set up the parameters of the device via Bluetooth radio.

## 2.6 How to replace Lithium-ion Battery

- Open the bolt on the bottom cover of *RBT-2300* and take the Lithium-ion battery out.
- Place new Lithium-ion battery into the room of *RBT-2300*.
- The *RBT-2300* Lithium-ion battery is replaceable and rechargeable.
- The *RBT-2300* Lithium-ion battery can last more than 8 hours in continuous operation mode.

## 2.7 How to use Car Charger to charge your handheld device

- Connect car charger into your adapter connector of *RBT-2300*.
- Plug adapter connector into handheld device connector and plug car charger into cigar-lighter.

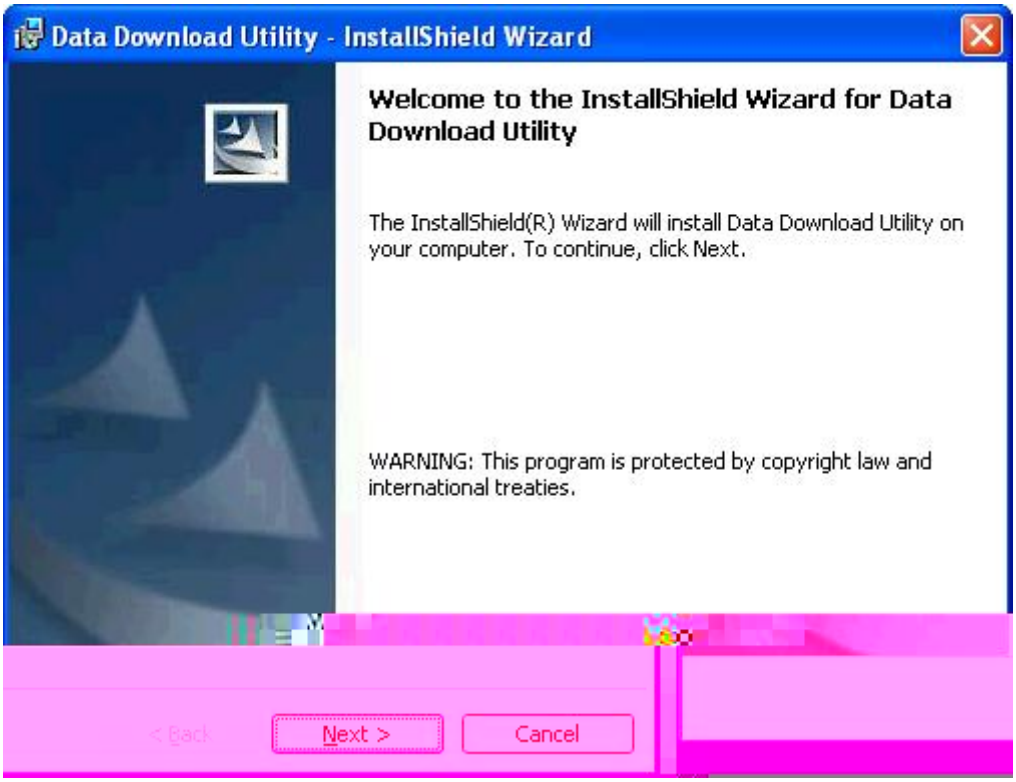
# 3. Software Installation

The Main Menu of Installation CD shows as above.

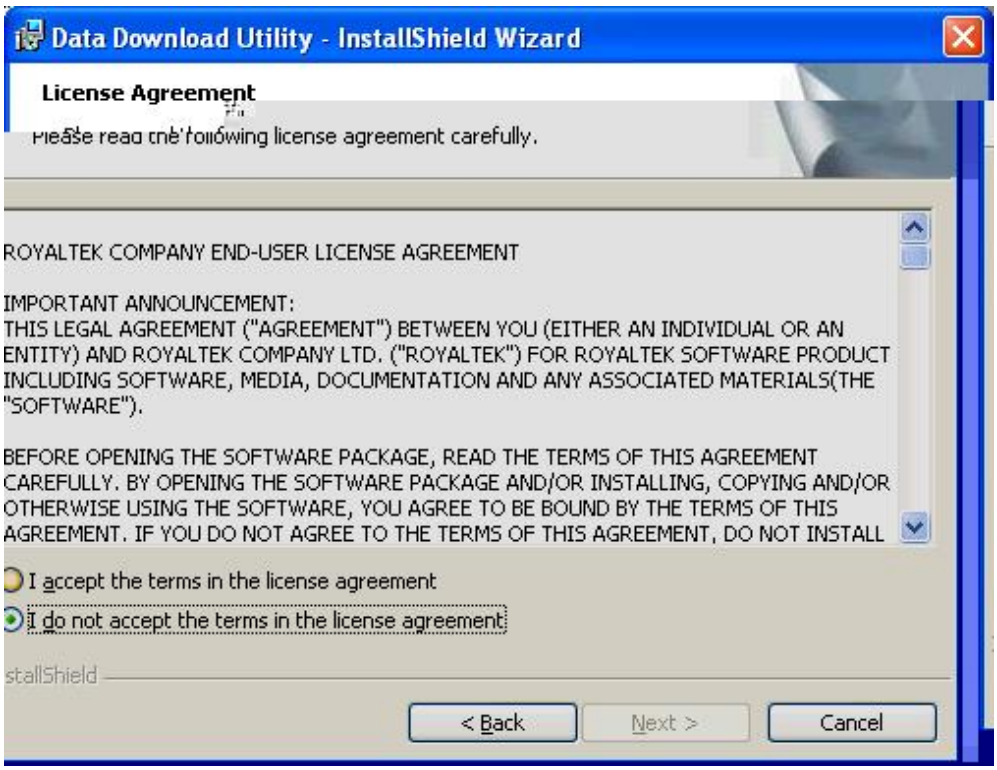
- Click the **Data download Utility for Windows** to install the pc download program.
- Click the **Software for Windows** to install the PC software application.
- Click the **Software for Pocket PC** to install the PDA software application.
- Click the **Software for Palm OS** to install Palm software application.
- Click the **User Manual** to open the user manual of Bluetooth GPS.
- Click the **View Royaltek Website** to link our http://www.royaltek.com, please make sure your PC connects to Internet first.
- Click the **Browse CD Contents** to open the explorer to browse the files within the CD.

## 3.1. Install Data download Utility for Windows

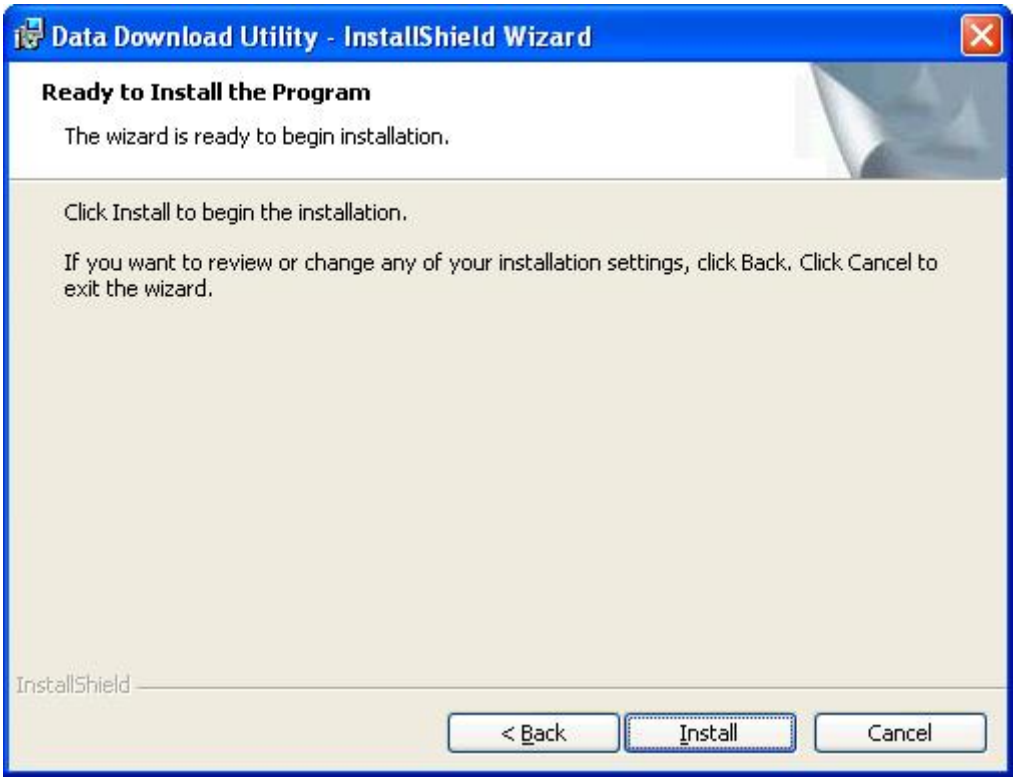
Click “Next> to next page”, or click”<Back” to back last stage or “Cancel” to give up installation.


Data Download Utility - InstallShield Wizard
Welcome to the InstallShield Wizard for Data Download Utility
The InstallShield(R) Wizard will install Data Download Utility on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

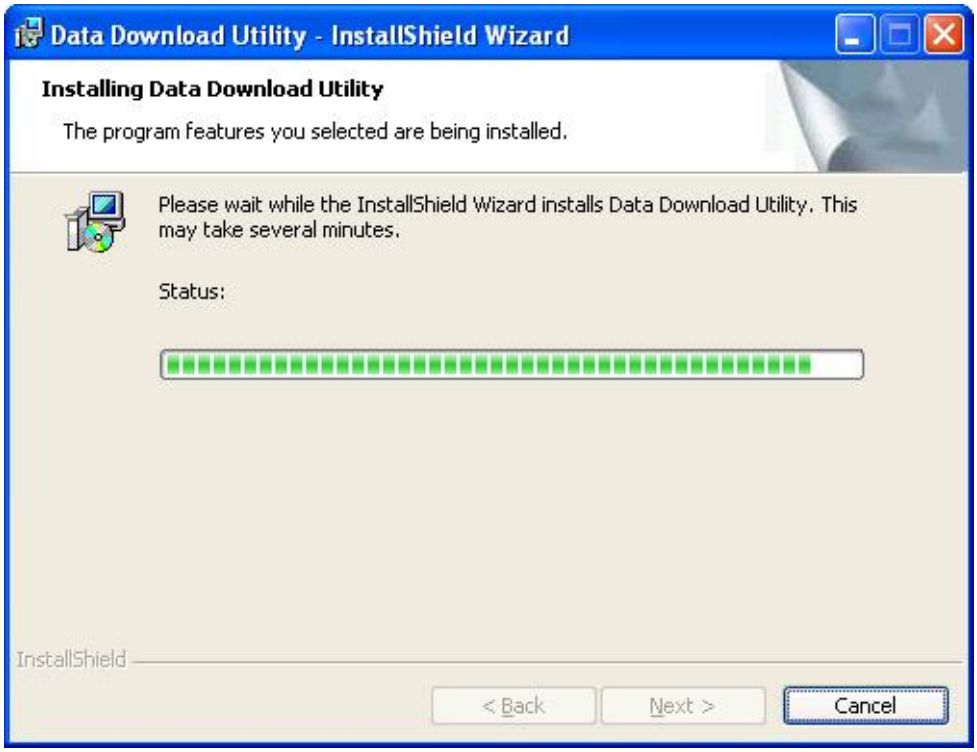
To the License Agreement page: Click “ I accept the terms in the license agreement” then click “Next>” to next page, or click”<Back” to back last stage or “Cancel” to give up installation.


Data Download Utility - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
ROYALTEK COMPANY END-USER LICENSE AGREEMENT
IMPORTANT ANNOUNCEMENT:
THIS LEGAL AGREEMENT ("AGREEMENT") BETWEEN YOU (EITHER AN INDIVIDUAL OR AN ENTITY) AND ROYALTEK COMPANY LTD. ("ROYALTEK") FOR ROYALTEK SOFTWARE PRODUCT INCLUDING SOFTWARE, MEDIA, DOCUMENTATION AND ANY ASSOCIATED MATERIALS(THE "SOFTWARE").
BEFORE OPENING THE SOFTWARE PACKAGE, READ THE TERMS OF THIS AGREEMENT CAREFULLY. BY OPENING THE SOFTWARE PACKAGE AND/OR INSTALLING, COPYING AND/OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, DO NOT INSTALL
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

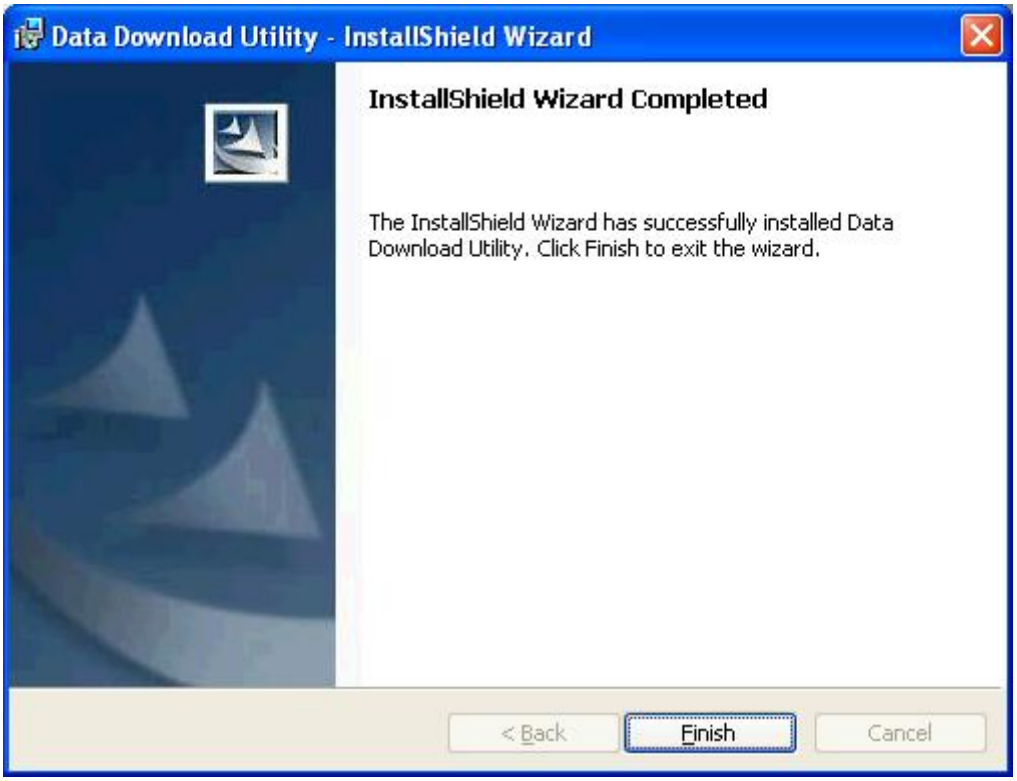
Click “Install” to start installation. Or click”<Back” to back last stage or “Cancel” to give up installation.


Data Download Utility - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Start installation.


Data Download Utility - InstallShield Wizard
Installing Data Download Utility
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs Data Download Utility. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

Please click “Finish” to finish the Installation.

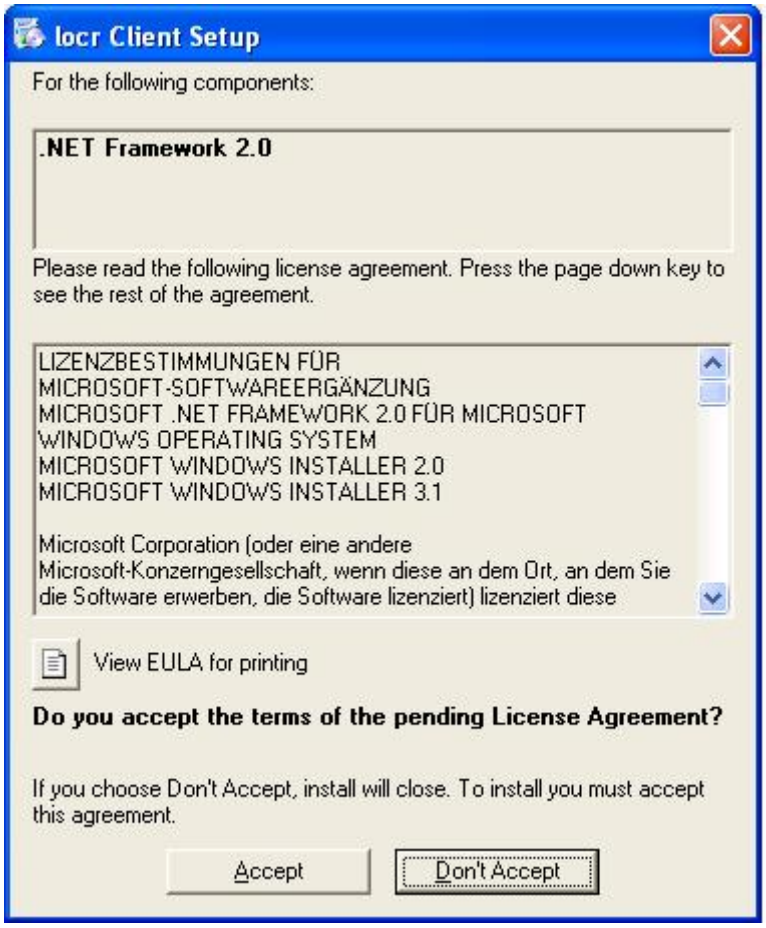

Data Download Utility - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Data Download Utility. Click Finish to exit the wizard.
< Back
Finish
Cancel

Finally you will see the icon on windows desk.

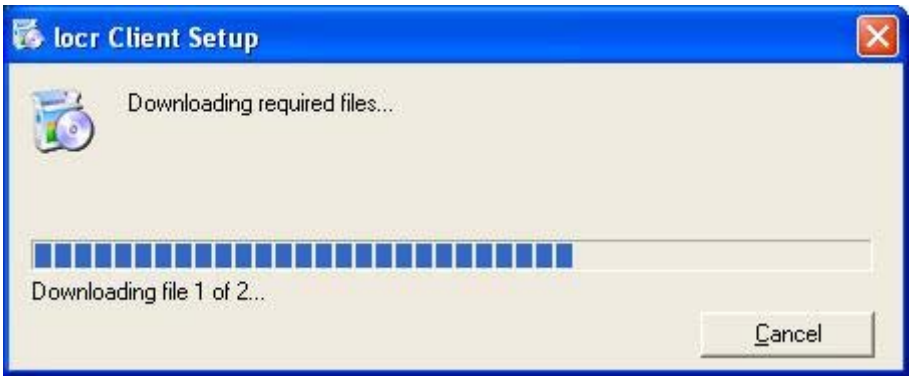
## 3.2 Install locr GPS Photo Utility

*Before you install the Utility, please check the Internet connection is ok.

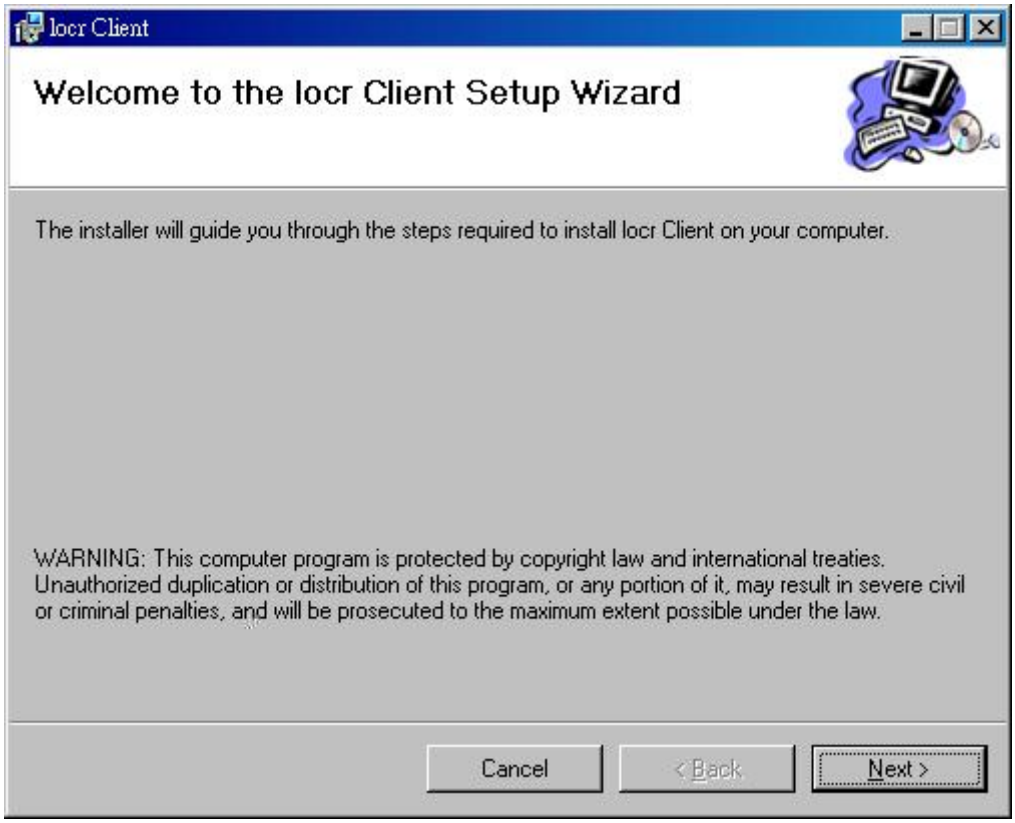
To the License Agreement page: Click “Accept” to start installation, or click ”Don’t Accept” to give up installation. Then


locr Client Setup
For the following components:
.NET Framework 2.0
Please read the following license agreement. Press the page down key to see the rest of the agreement.
LIZENZBESTIMMUNGEN FÜR
MICROSOFT-SOFTWAREERGÄNZUNG
MICROSOFT .NET FRAMEWORK 2.0 FÜR MICROSOFT
WINDOWS OPERATING SYSTEM
MICROSOFT WINDOWS INSTALLER 2.0
MICROSOFT WINDOWS INSTALLER 3.1
Microsoft Corporation (oder eine andere
Microsoft-Konzerngesellschaft, wenn diese an dem Ort, an dem Sie
die Software erwerben, die Software lizenziert) lizenziert diese
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

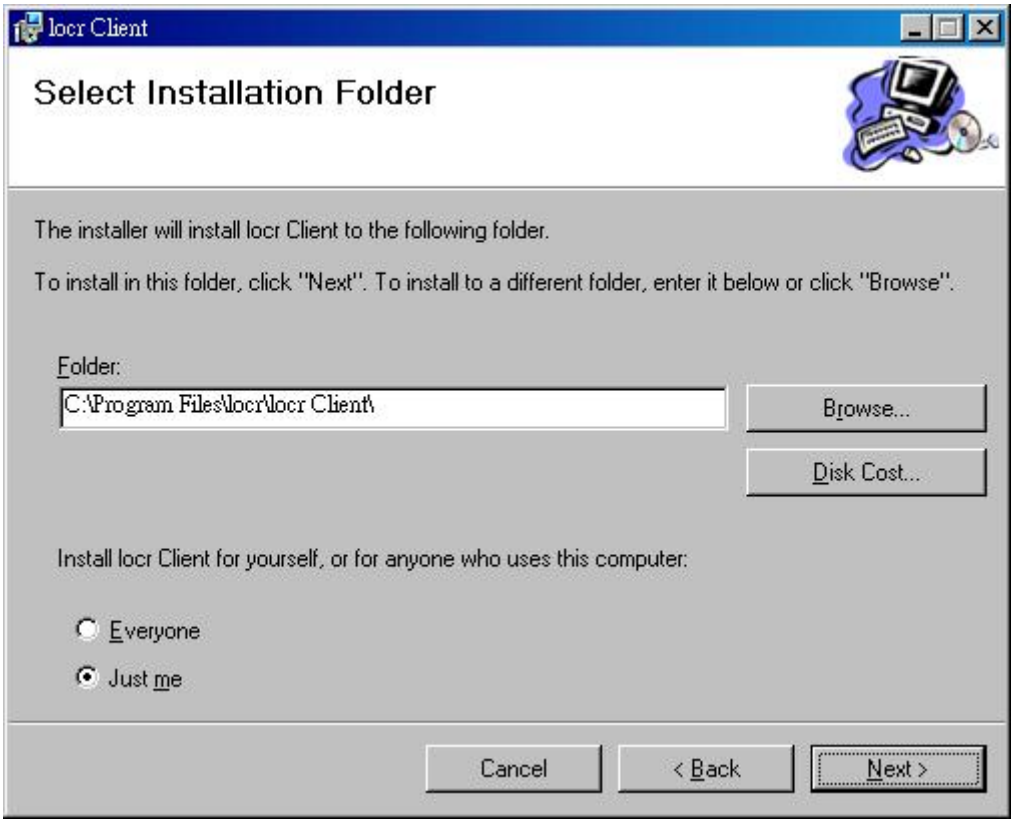
Start installation.



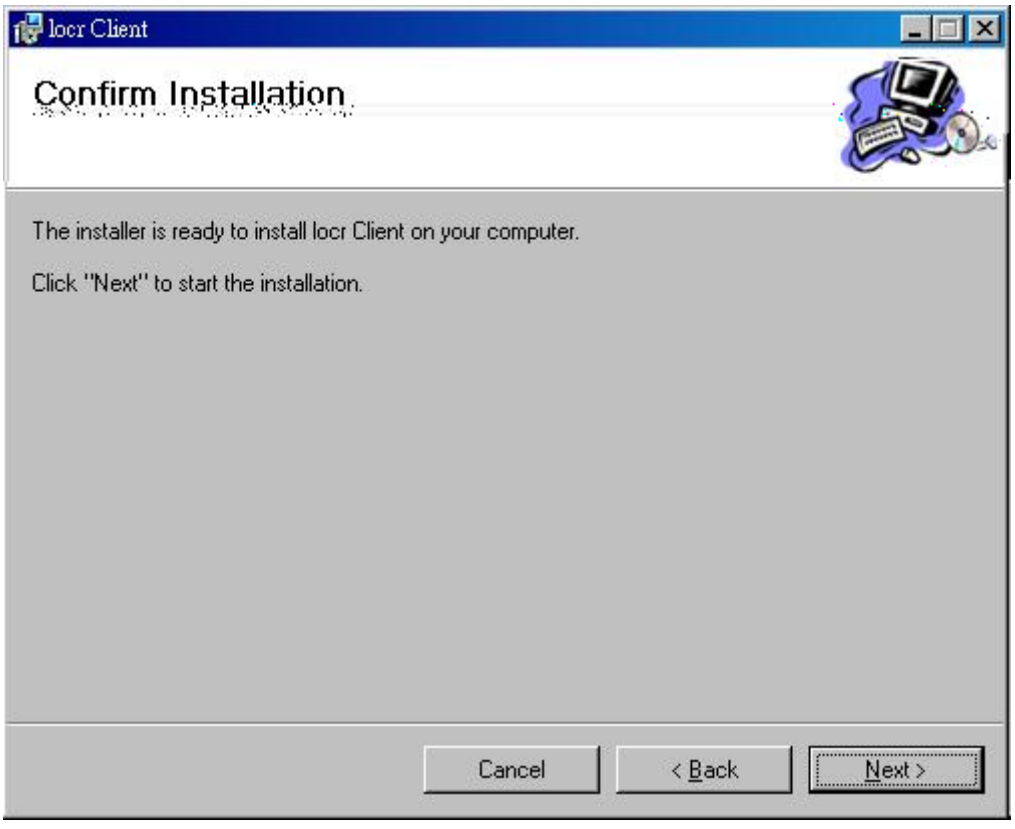

Click “Next> to next page”, or click”<Back” to back last stage or “Cancel” to give up installation.


locr Client
Welcome to the locr Client Setup Wizard
The installer will guide you through the steps required to install locr Client on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

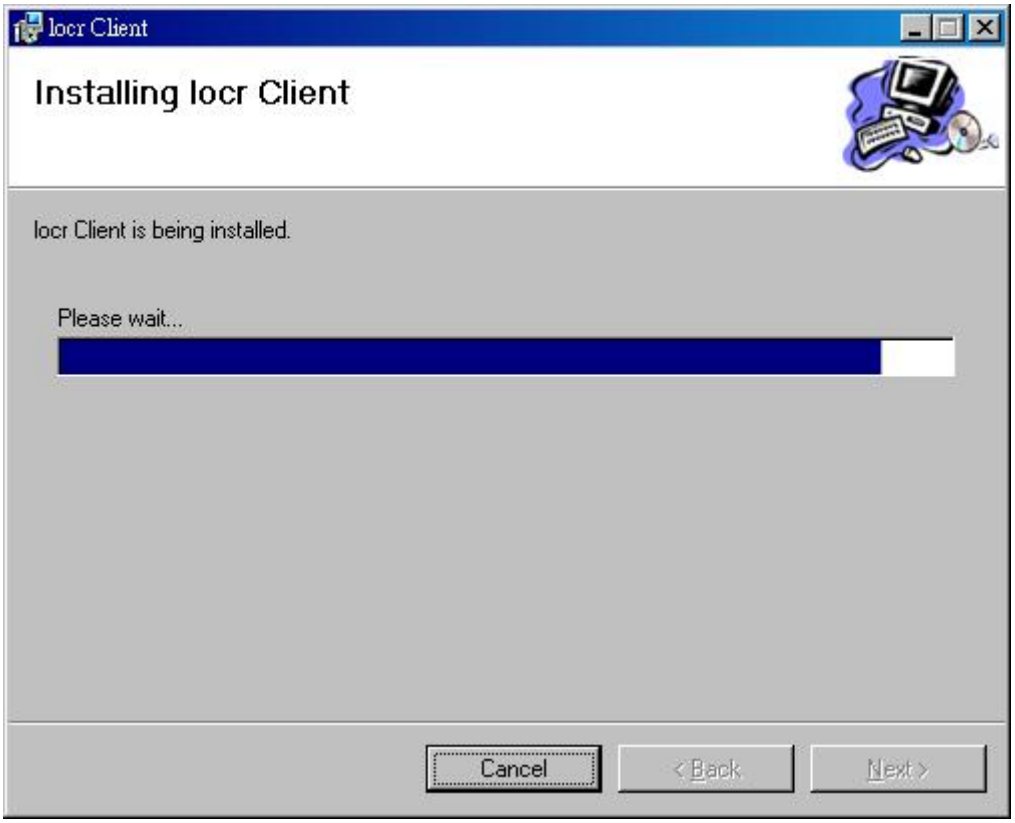
Select Installation folder and Click “Next> to next page”, or click”<Back” to back last stage or “Cancel” to next step.


locr Client
Select Installation Folder
The installer will install locr Client to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\locr\locr Client\
Browse...
Disk Cost...
Install locr Client for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

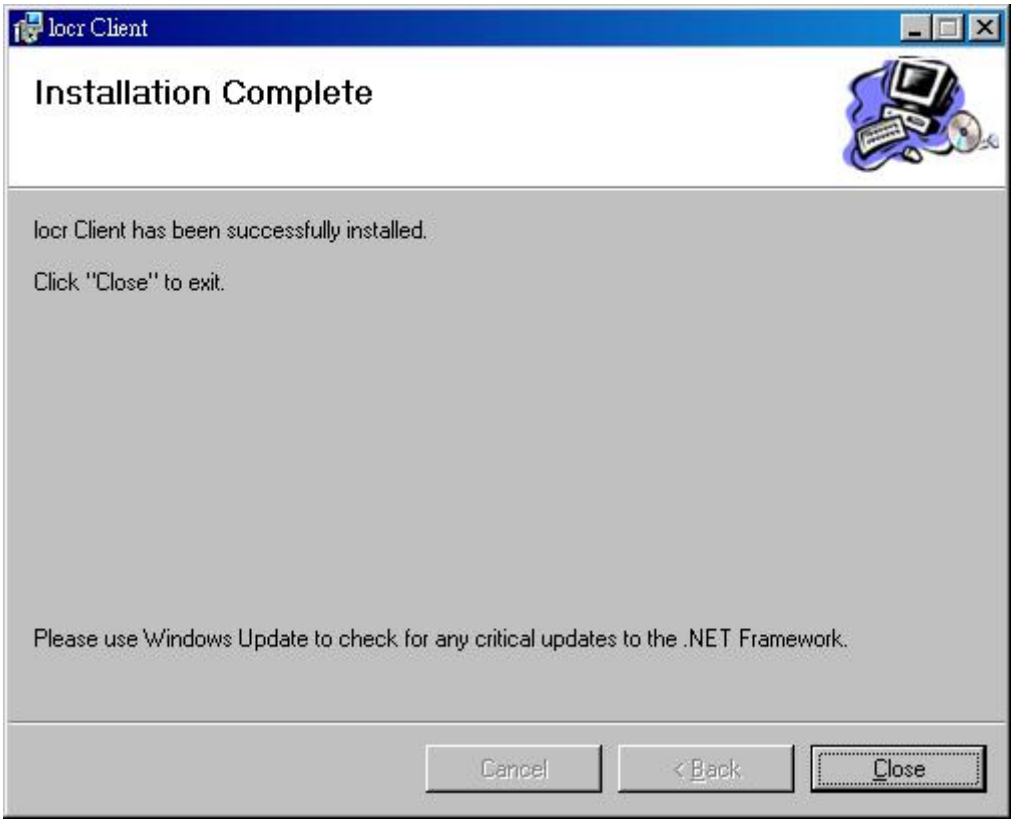
Click “Next> to start installation”, or click”<Back” to back last stage or “Cancel” to give up installation.


locr Client
Confirm Installation
The installer is ready to install locr Client on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

locr GPS Photo is being installed




Installation Complete

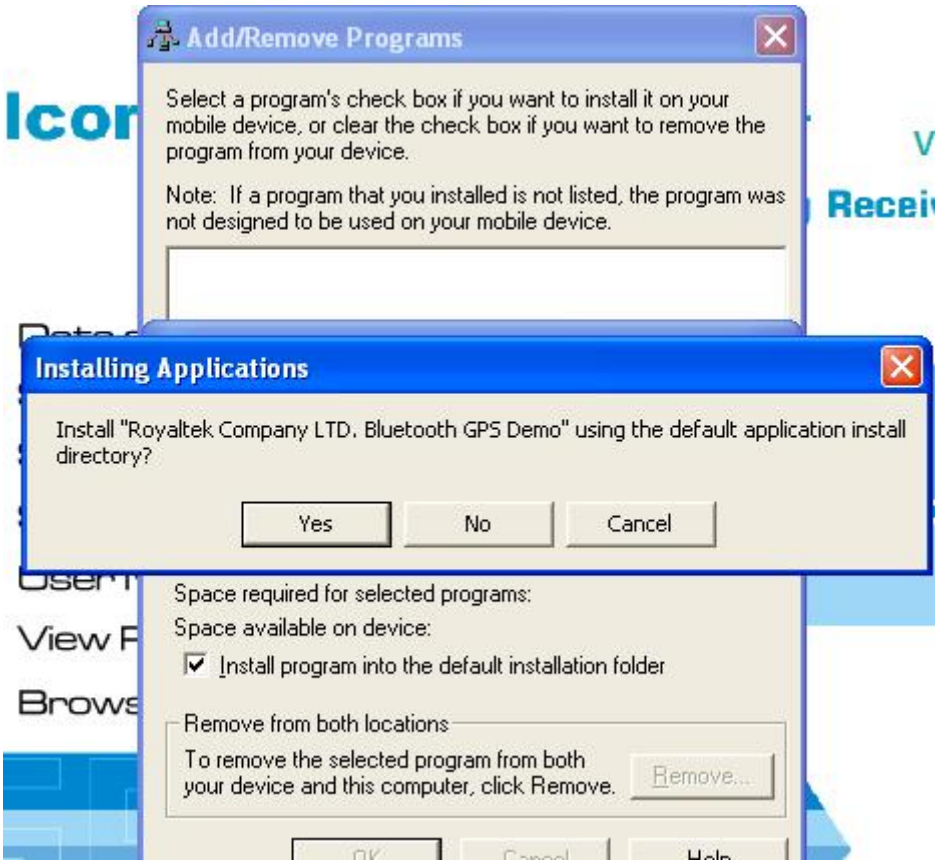

locr Client
Installation Complete
locr Client has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

Finally you will see the icon on the windows desk.

locr Client

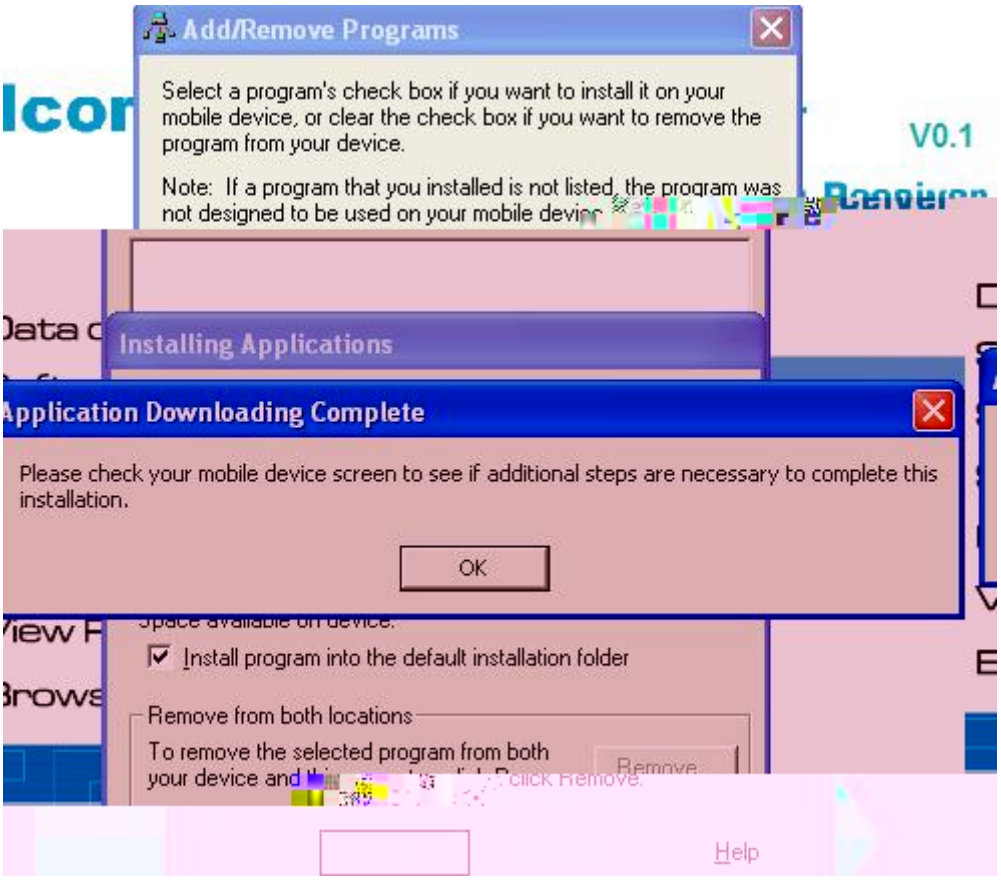
# 3.3. Install PDA Software Application

Before you click the **“Software for Pocket PC ”** to install the PDA software application from CD, you have to synchronize the PDA and your system. Then the following window will show in your system as below:

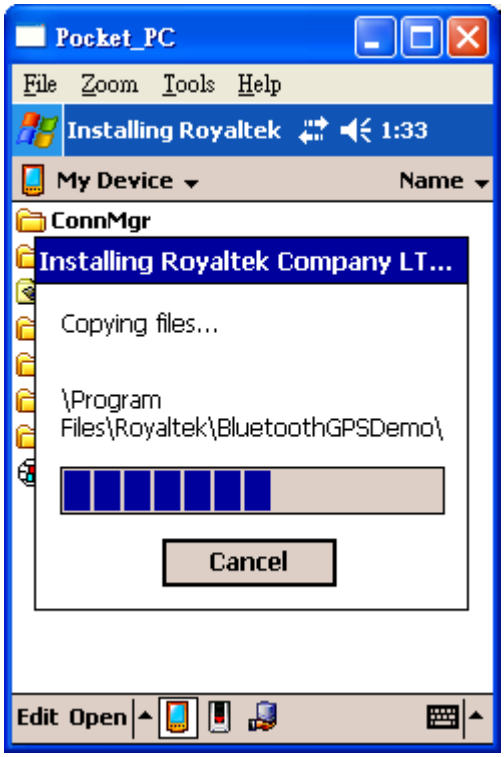

Add/Remove Programs
Select a program's check box if you want to install it on your mobile device, or clear the check box if you want to remove the program from your device.
Note: If a program that you installed is not listed, the program was not designed to be used on your mobile device.
Installing Applications
Install "Royaltek Company LTD. Bluetooth GPS Demo" using the default application install directory?
Yes
No
Cancel
Space required for selected programs:
Space available on device:
Install program into the default installation folder
Remove from both locations
To remove the selected program from both your device and this computer, click Remove.
Remove...

Click “Yes>” to continue. Or click ”No” to select the other destination to install, or “Cancel” to give up installation.

Click “ OK” to complete the installation.


Add/Remove Programs
Select a program's check box if you want to install it on your mobile device, or clear the check box if you want to remove the program from your device.
Note: If a program that you installed is not listed, the program was not designed to be used on your mobile devic
V0.1
Installing Applications
Application Downloading Complete
Please check your mobile device screen to see if additional steps are necessary to complete this installation.
OK
Install program into the default installation folder
Remove from both locations
To remove the selected program from both your device and
Remove
Help

You can also see the “Installing RoyakTek” message box.

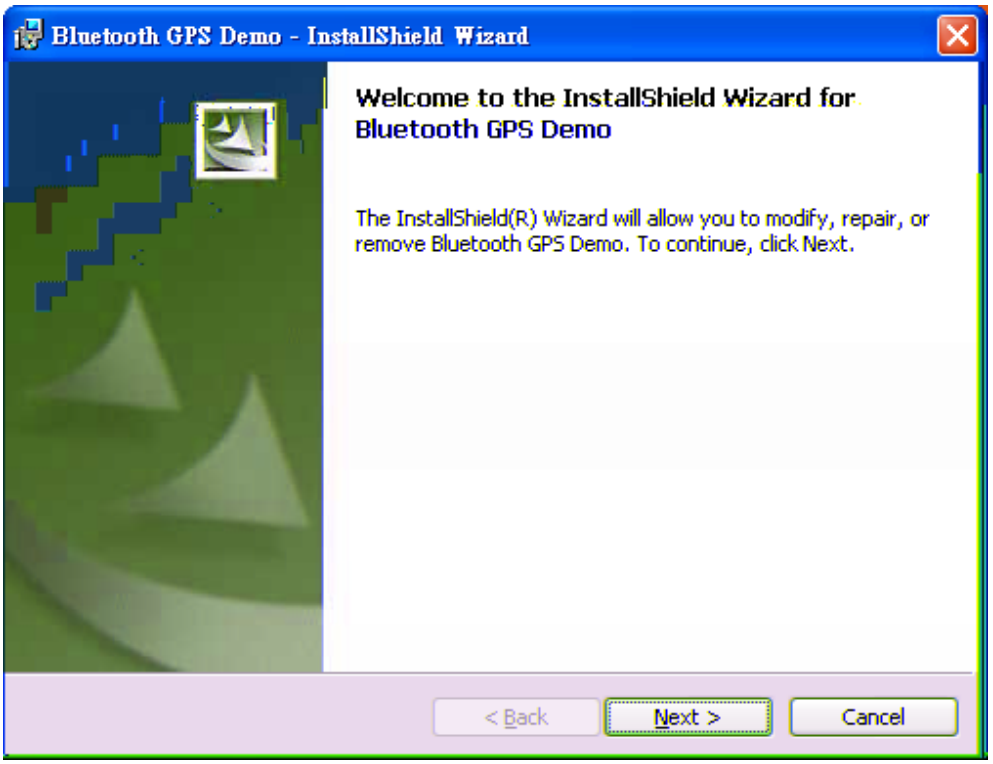



Note: About to install the software application to your PDA, please refer to your user manual of your PDA manufacturer.

# 3.4. Install PC Software Application

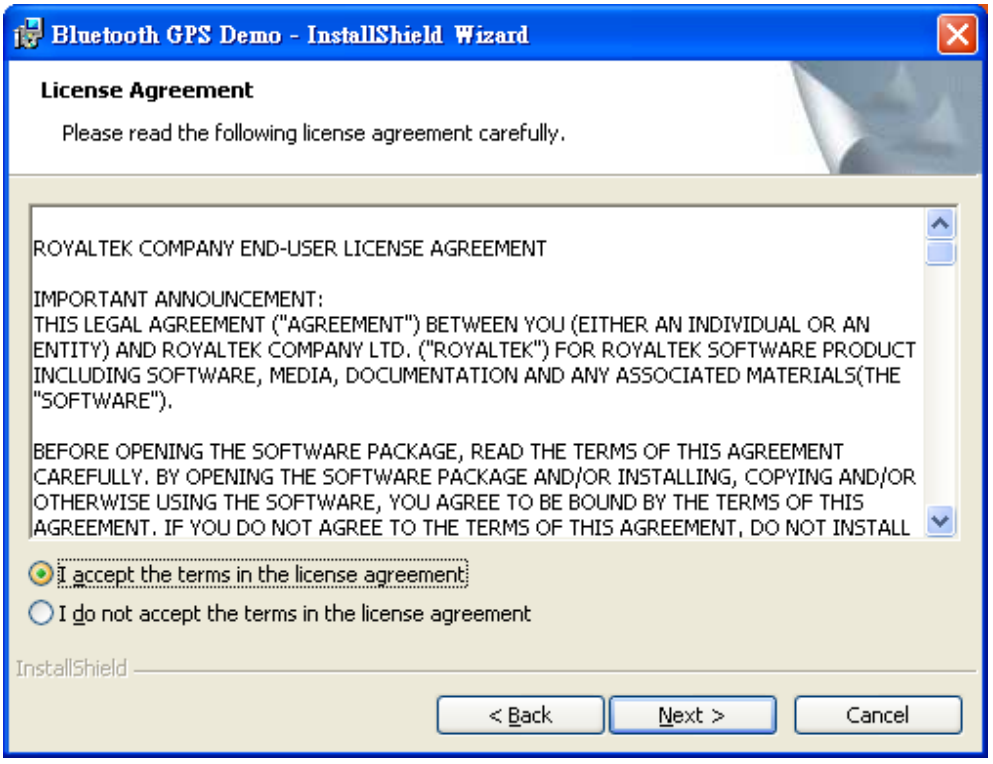
Install the pc software application from CD.

When screen shows the installation window as follows:


Bluetooth GPS Demo - InstallShield Wizard
Welcome to the InstallShield Wizard for Bluetooth GPS Demo
The InstallShield(R) Wizard will allow you to modify, repair, or remove Bluetooth GPS Demo. To continue, click Next.
< Back
Next >
Cancel

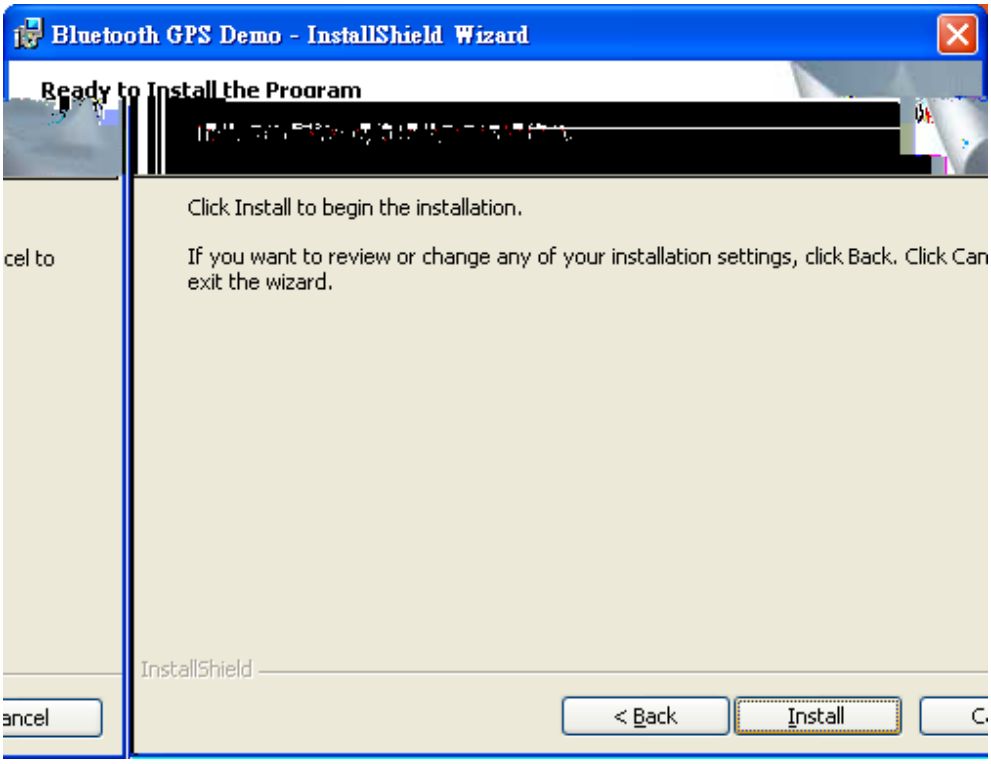
Click “Next> to next page”, or click”<Back” to back last stage or “Cancel” to give up installation.

To the License Agreement page:

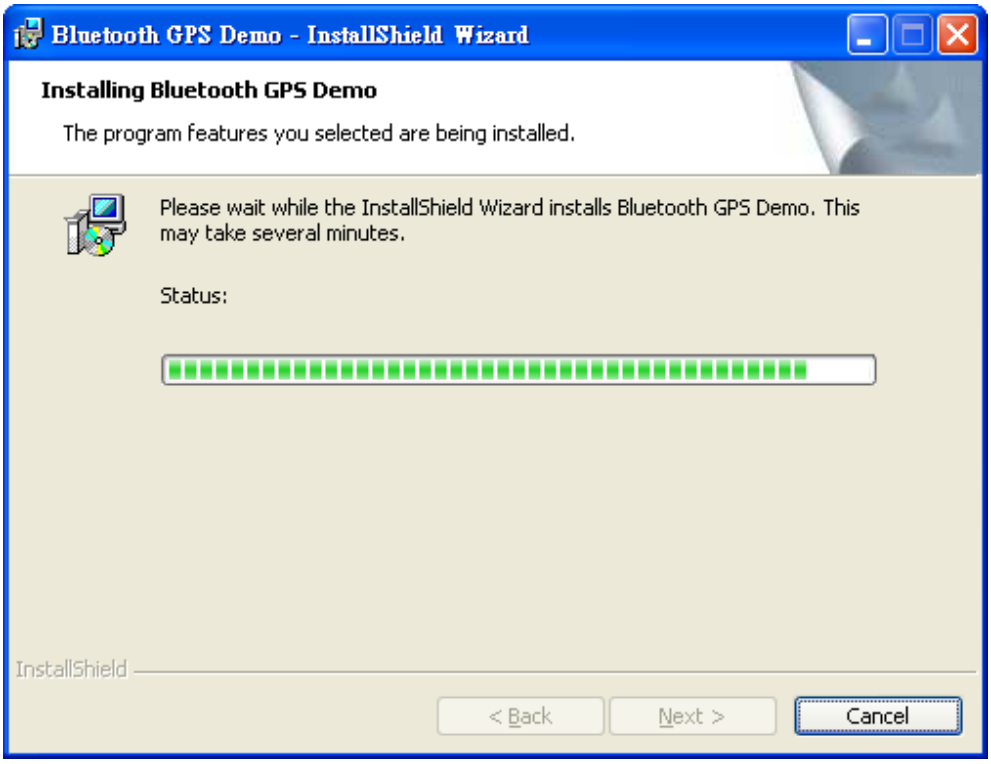

Bluetooth GPS Demo - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
ROYALTEK COMPANY END-USER LICENSE AGREEMENT
IMPORTANT ANNOUNCEMENT:
THIS LEGAL AGREEMENT ("AGREEMENT") BETWEEN YOU (EITHER AN INDIVIDUAL OR AN ENTITY) AND ROYALTEK COMPANY LTD. ("ROYALTEK") FOR ROYALTEK SOFTWARE PRODUCT INCLUDING SOFTWARE, MEDIA, DOCUMENTATION AND ANY ASSOCIATED MATERIALS(THE "SOFTWARE").
BEFORE OPENING THE SOFTWARE PACKAGE, READ THE TERMS OF THIS AGREEMENT CAREFULLY. BY OPENING THE SOFTWARE PACKAGE AND/OR INSTALLING, COPYING AND/OR OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, DO NOT INSTALL
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

Click “ I accept the terms of the license agreement” then click “Next>”

to next page, or click”<Back” to back last stage or “Cancel” to give up installation.

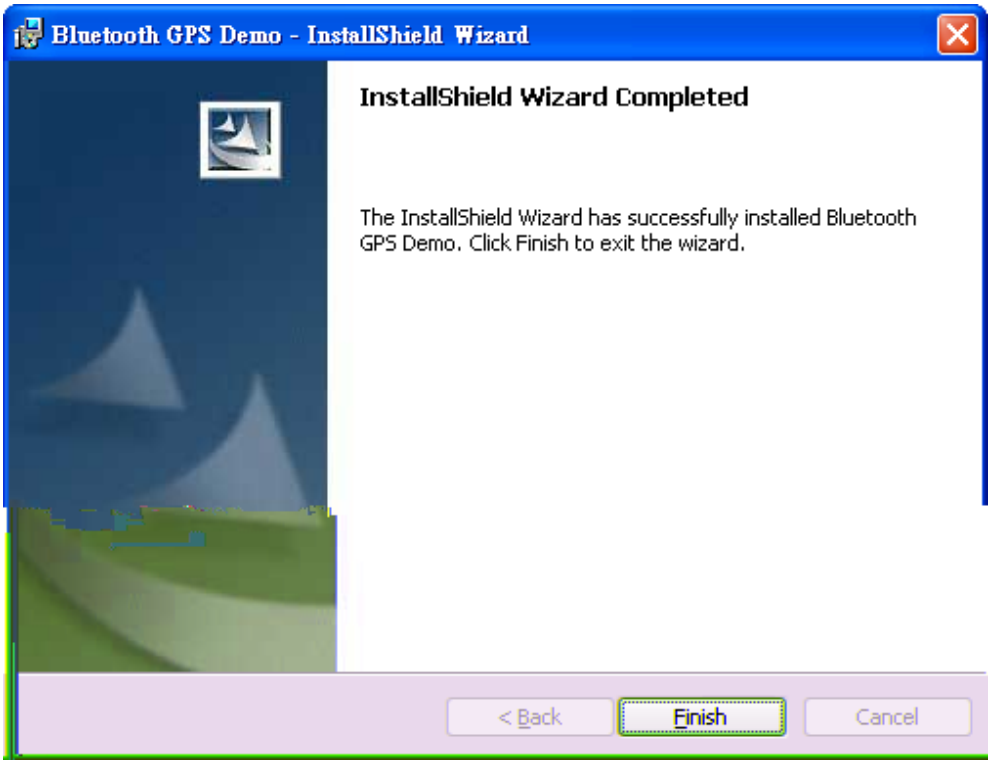

Bluetooth GPS Demo - InstallShield Wizard
Ready to Install the Program
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Can exit the wizard.
cel to
ancel
InstallShield
< Back
Install

Click “Install” to start installation. Or click”<Back” to back last stage or “Cancel” to give up installation.


Bluetooth GPS Demo - InstallShield Wizard
Installing Bluetooth GPS Demo
The program features you selected are being installed.
Please wait while the InstallShield Wizard installs Bluetooth GPS Demo. This may take several minutes.
Status:
InstallShield
< Back
Next >
Cancel

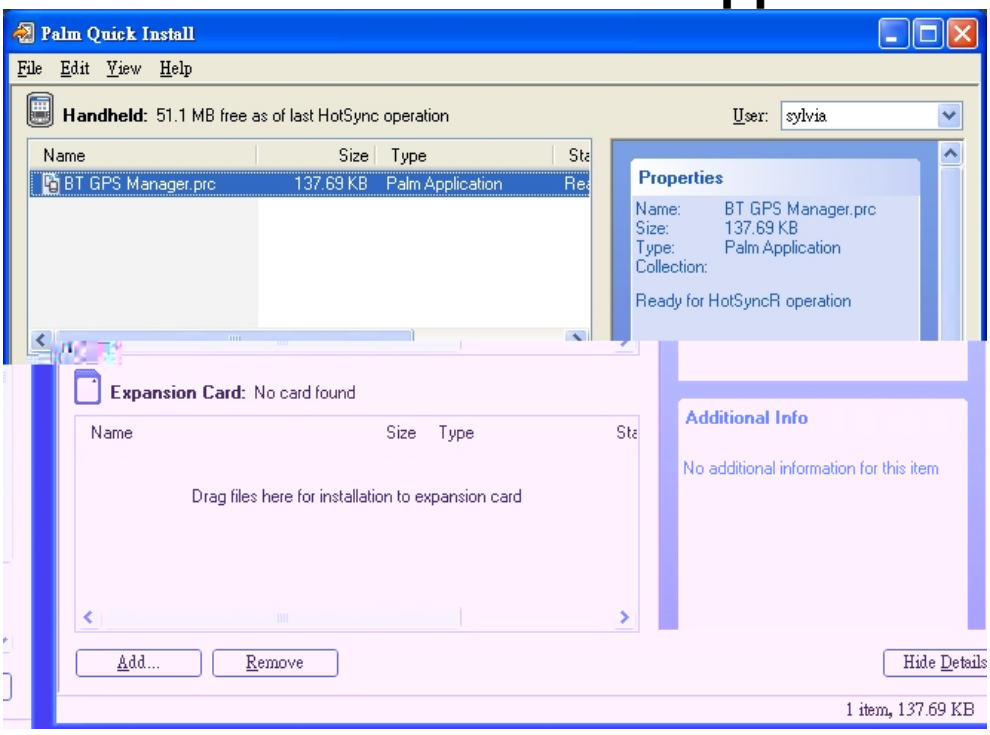
Then start installation. And finish installation will ask you to restart

your computer as follow window.


Bluetooth GPS Demo - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Bluetooth GPS Demo. Click Finish to exit the wizard.
< Back
Finish
Cancel

Please click “Finish” to finish the Installation.

## 3.5 Install Palm Software Application



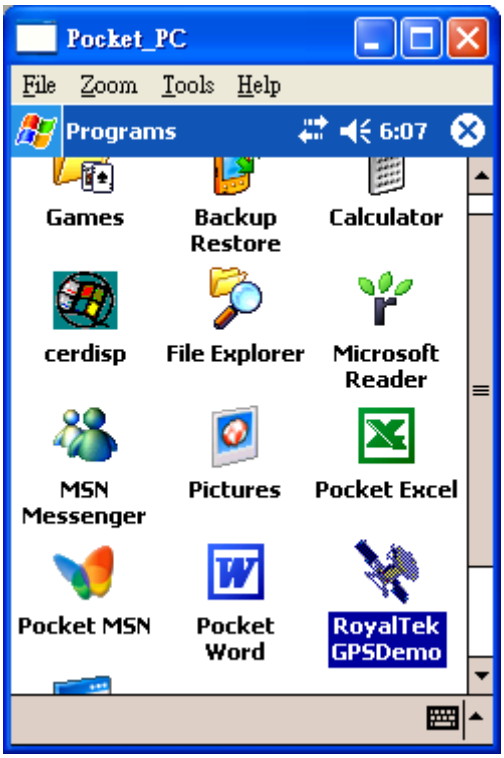

Note:

To execute this Palm Software Application, please install Palm software in

advance.

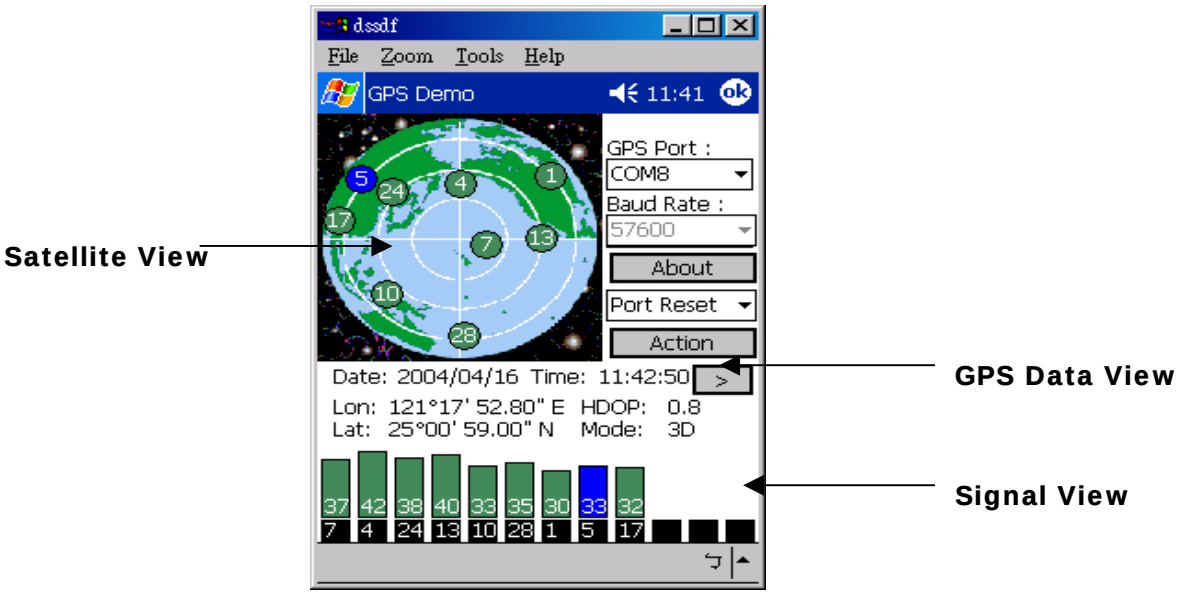
# 4. GPS Test on PDA

## 4.1. Execute GPS Demo Program




Execute RoyalTek GPS Demo program by double clicking **RoyalTek GPS Demo** icon on **Programs** menu.

## 4.2. GPS Demo Screen




### 4.2.1. GPS Port:

Searching GPS port automatically or select COM1 as the default COM port.

### 4.2.2. Baud Rate:

Select baud rate: 57600.

### 4.2.3. About:

Displays software version.

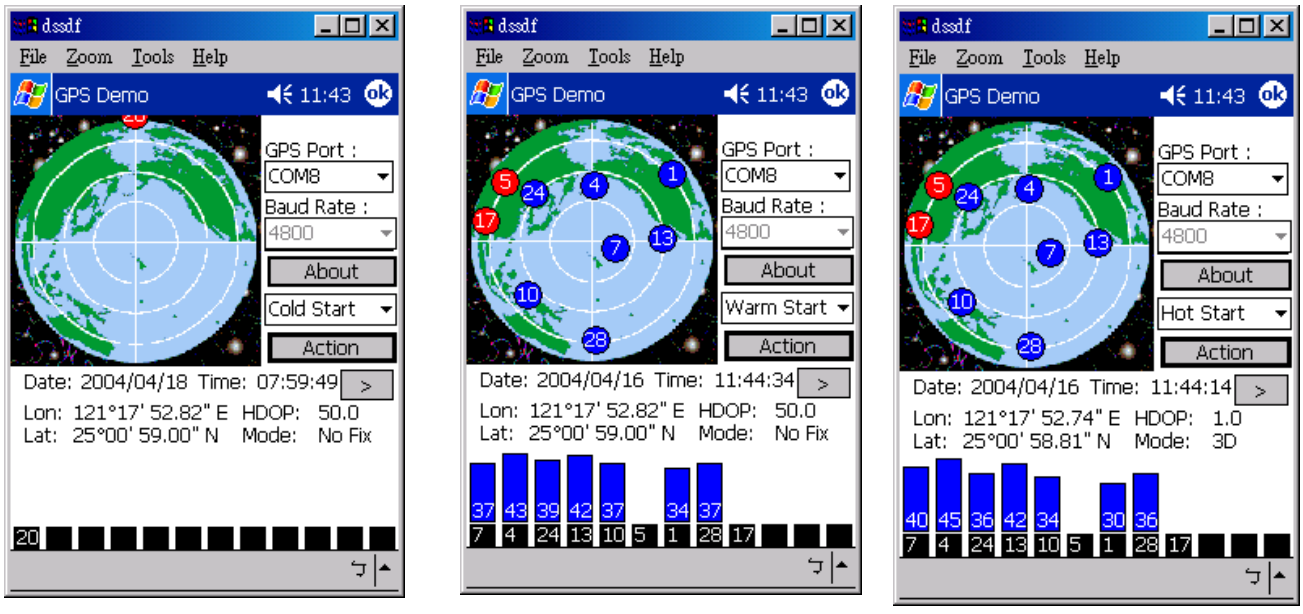
### 4.2.4. Action:

Select GPS action.

### 4.2.5. >

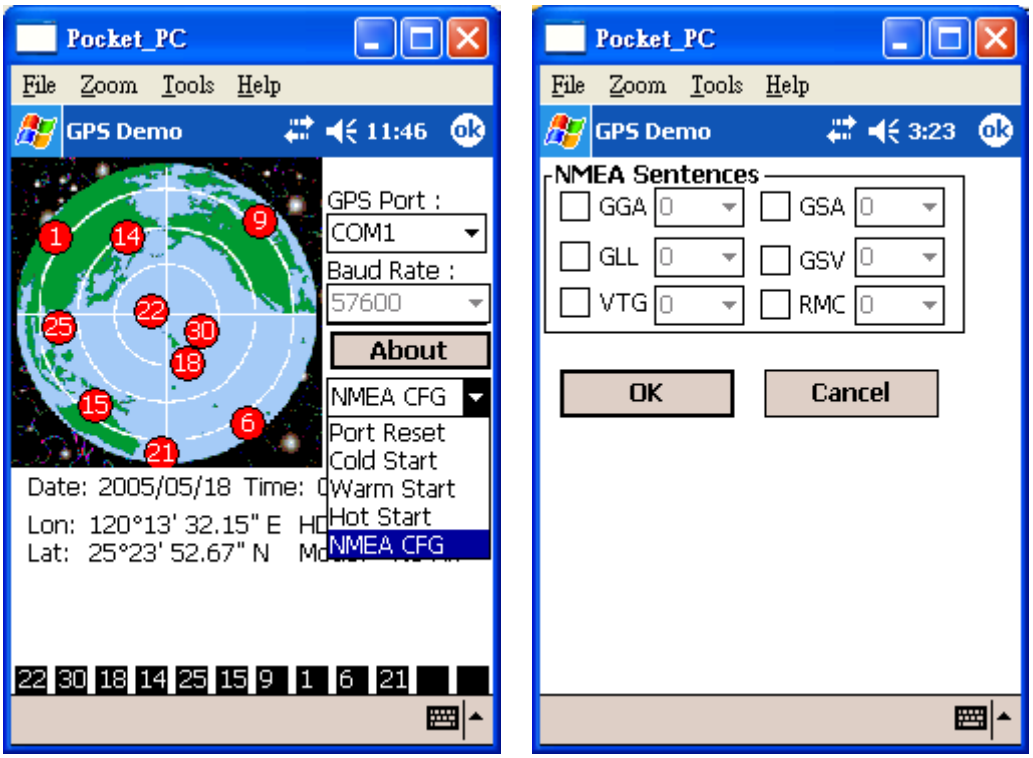
Next screen.

## 4.3. Cold / Warm / Hot Start



Selecting Cold/Warm/Hot Start in function scroll bar, then click **Action** to initialize Cold/Warm/Hot Start function.

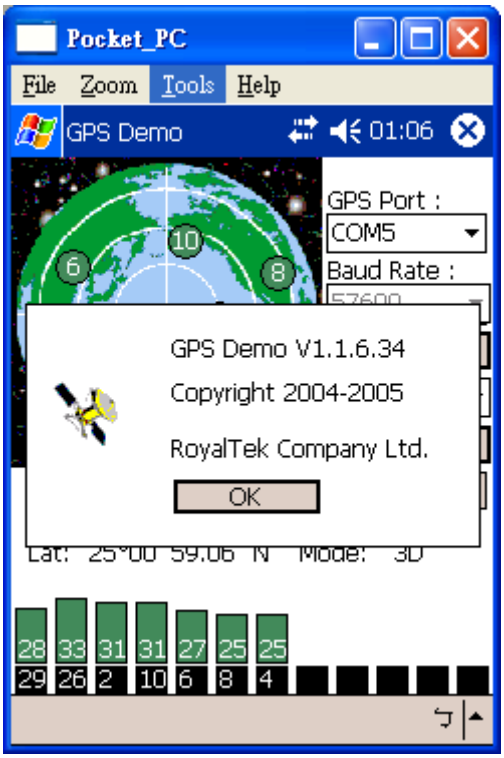
## 4.4. NMEA Configuration




Selecting NMEA CFG in function scroll bar, then click **Action** to do NMEA sentence setting.

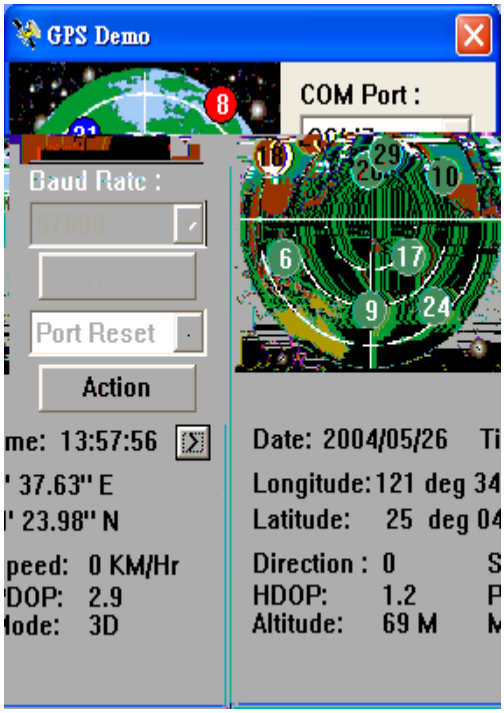
## 4.5. About

This page shows the software version and the copyright claim.




## 4.6. Next Screen

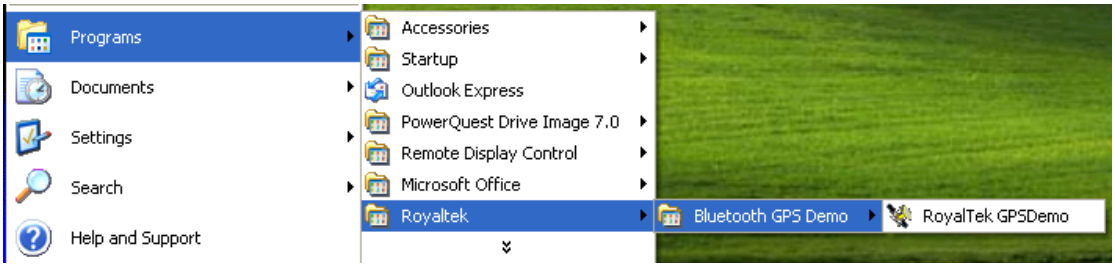
Clicking **>** to switch GPS bar chart image to have more GPS data.



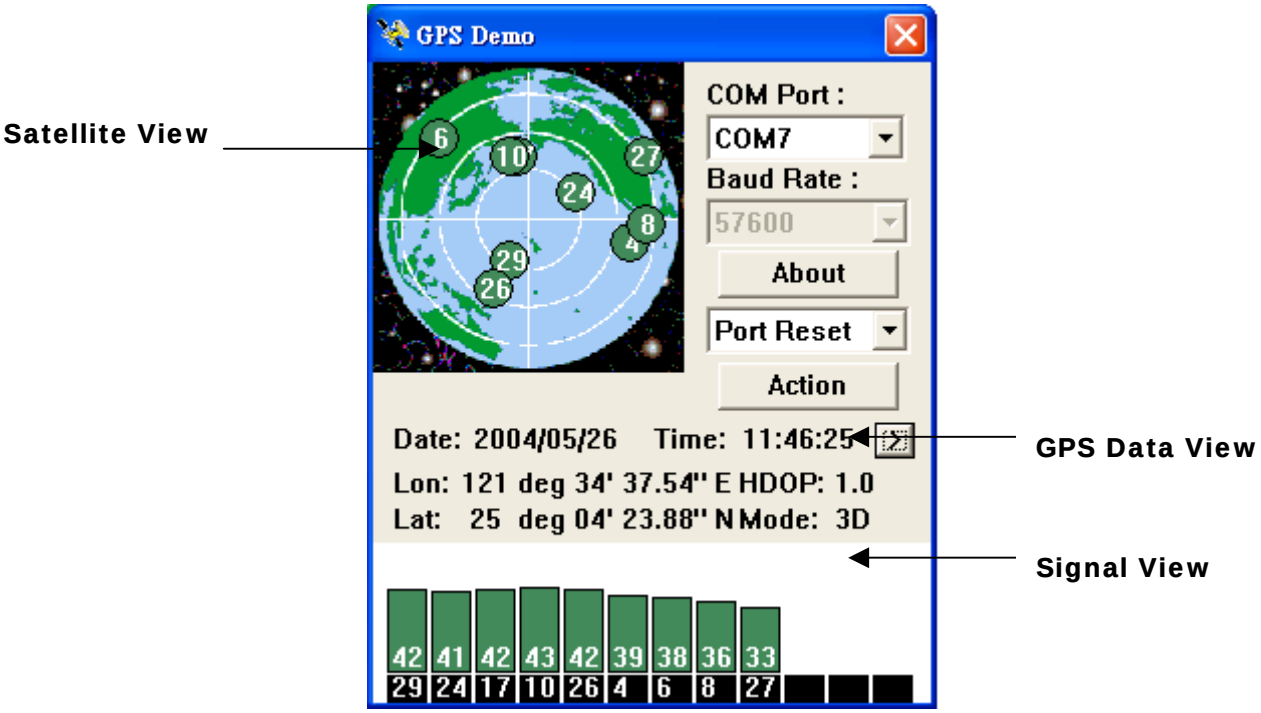
# 5. GPS Test on PC

## 5.1. Execute GPS Demo Program

Execute GPS Demo program by double clicking **RoyalTek GPS Demo** icon on **Programs** menu.




## 5.2. GPS Demo Screen




### 5.2.1. GPS Port:

Searching GPS port automatically or select COM1 as the default COM port.

### 5.2.2. Baud Rate:

Select baud rate: 57600.

### 5.2.3. About:

Displays software version.

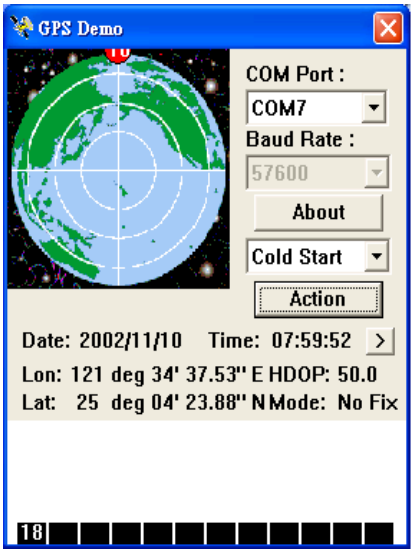
### 5.2.4. Action:

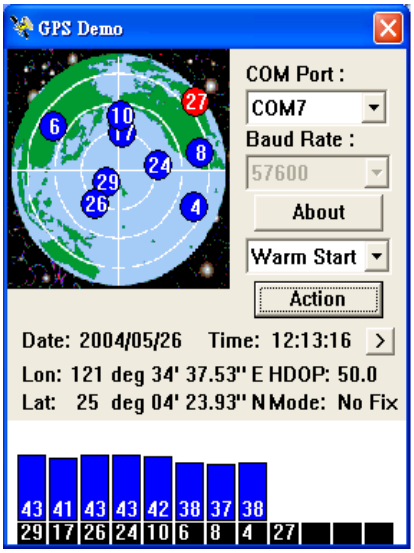
Select GPS action.

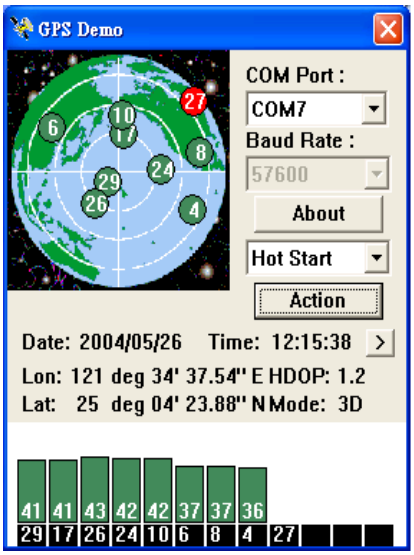
### 5.2.5. [ > ]

Next screen.

## 5.3. Cold / Warm / Hot Start

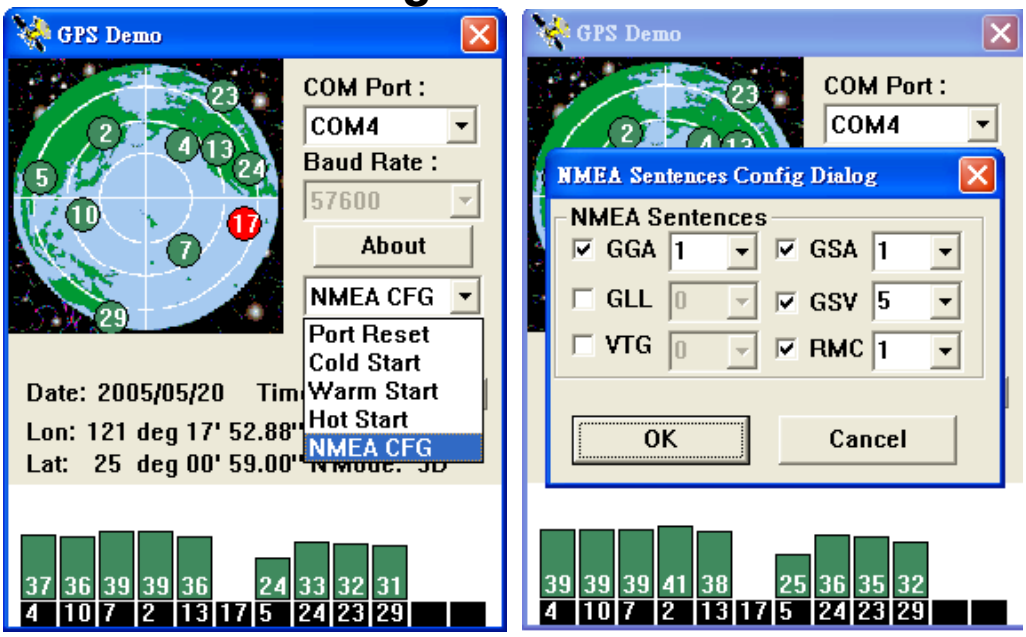




GPS Demo
COM Port :
COM7
Baud Rate :
57600
About
Warm Start
Action
Date: 2004/05/26 Time: 12:13:16
Lon: 121 deg 34' 37.53" E HDOP: 50.0
Lat: 25 deg 04' 23.93" N Mode: No Fix
43 41 43 43 42 38 37 38
29 17 26 24 10 6 8 4 27




Selecting Cold/Warm/Hot Start in function scroll bar, then click **Action** to initialize Cold/Warm/Hot Start function.

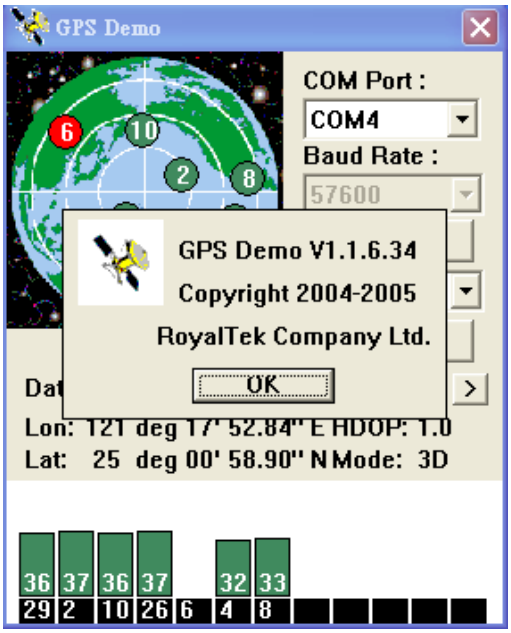
# 5.4. NMEA Configuration



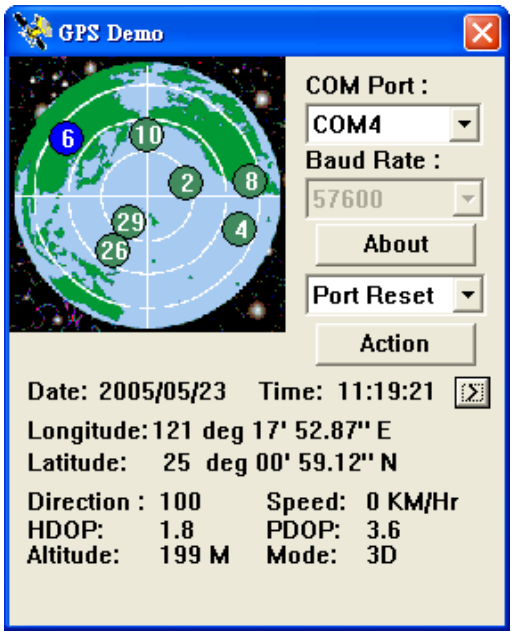

Selecting NMEA CFG in function scroll bar, then click **Action** to do NMEA sentence setting.

# 5.5. About

This page shows the software version and the copyright claim.



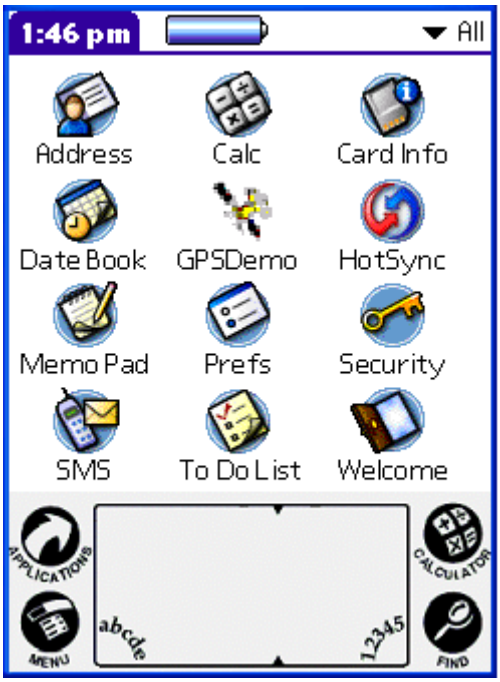
## 5.6. Next Screen




Clicking to switch GPS bar chart image to have more GPS Data.

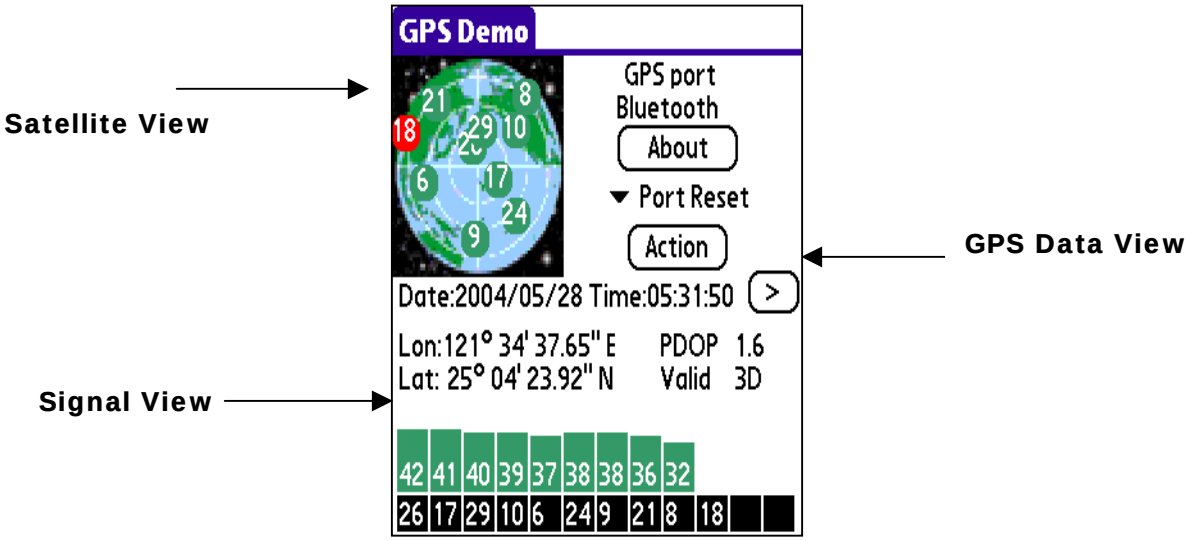
# 6. GPS Test on PDA of Palm OS

## 6.1. Execute GPS Demo Program




Execute RoyalTek GPS Demo program by double clicking **RoyalTek GPS Demo** icon on **Programs** menu.

## 6.2. GPS Demo Screen




### 6.2.1. GPS Port:

Searching GPS port automatically or select COM1 as the default COM port.

### 6.2.2. Baud Rate:

Select baud rate: 57600.

### 6.2.3. About:

Displays software version.

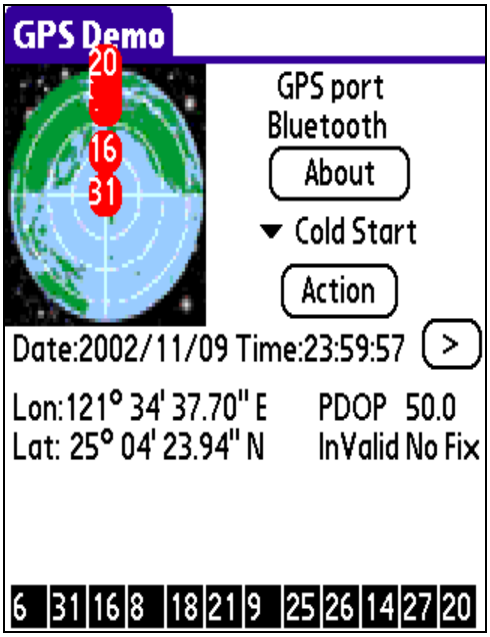
### 6.2.4. Action:

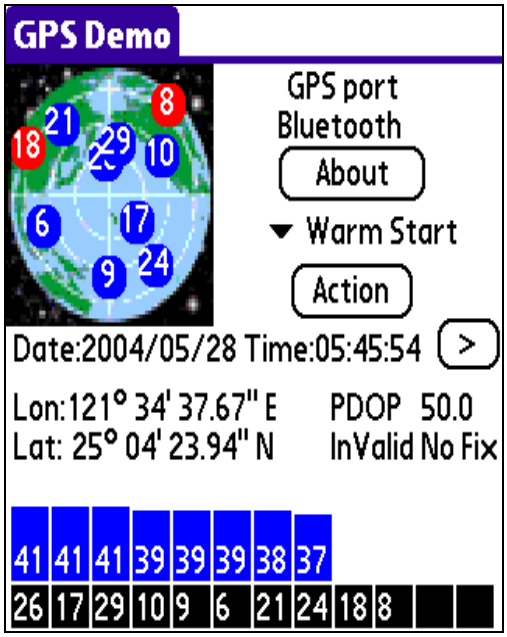
Select GPS action.

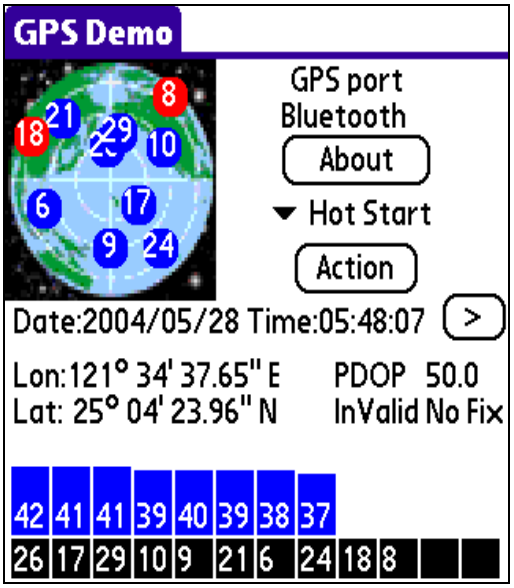
### 6.2.5. [ > ]

Next screen.

## 6.3. Cold / Warm / Hot Start



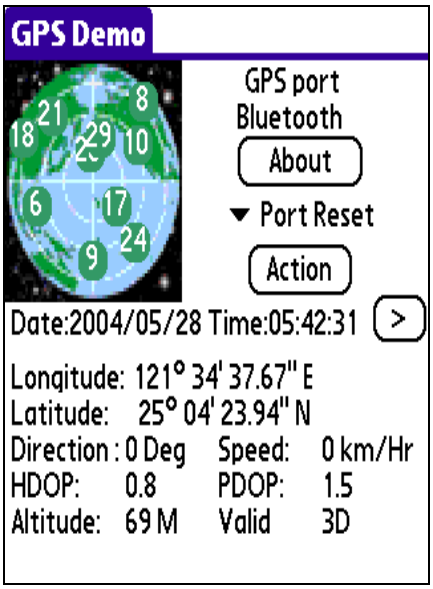

Selecting Cold/Warm/Hot Start in function scroll bar, then click **Action** to initialize Cold/Warm/Hot Start function.

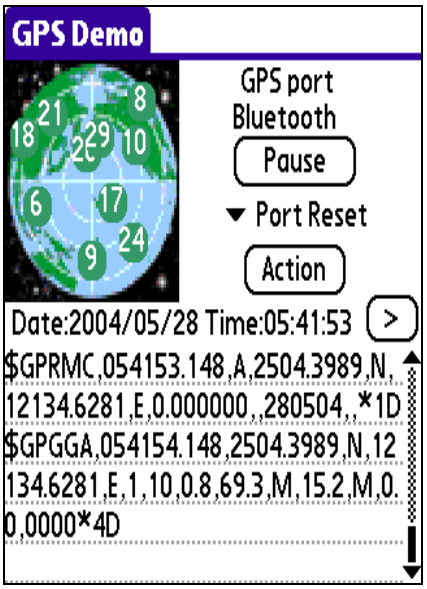
## 6.4. About

This page shows the software version and the copyright claim.

## 6.5. Next Screen

Clicking [ > ] to switch GPS bar chart image to have more GPS data.

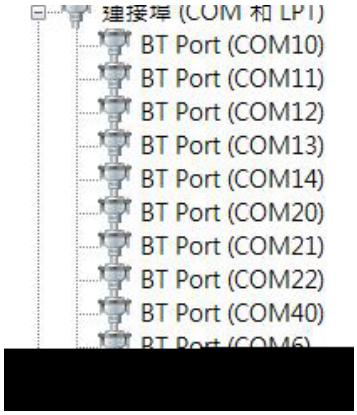


# 7. Transfer data to your PC or Notebook

## 7.1 Connect RBT-2300

- **Turn on the power of RBT-2300 and use the bluetooth to connect to the PC.**
- **Before you download the data from RBT-2300, please plug in the AC adapter to provide the RBT-2300 power.**
- **Check the COM port of PC / Notebook first. Click "Start" → "Control Panel"→"Performance and Maintenance"→"System", and you will see the System Properties dialog box; click on "Hardware" tab and then the "Device Manager" button. Expand the "Ports (COM & LPT)" item, and select the "BT Port" of your RBT-2300.**

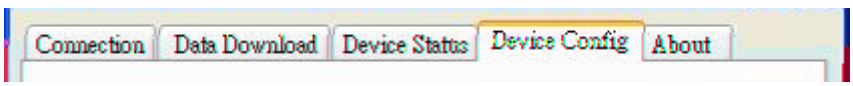



## 7.2. How to use data download Utility

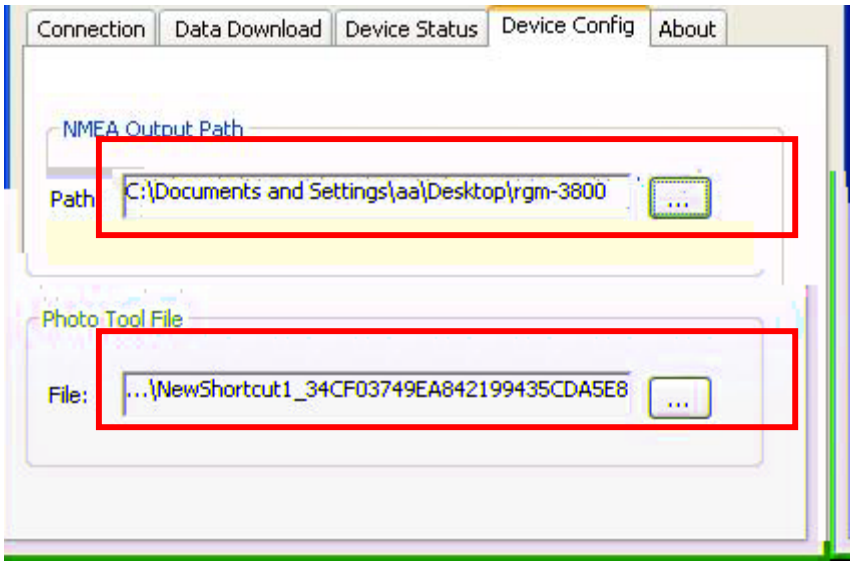
### 7.2.1 Open Data download Utility

For the First using

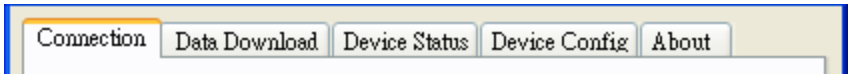
Step 1: Change to "Device Config." menu bar




Step 2: Select Folder or set a new folder for saving NMEAData.
Set Folder or set a new folder for the photo Tool.

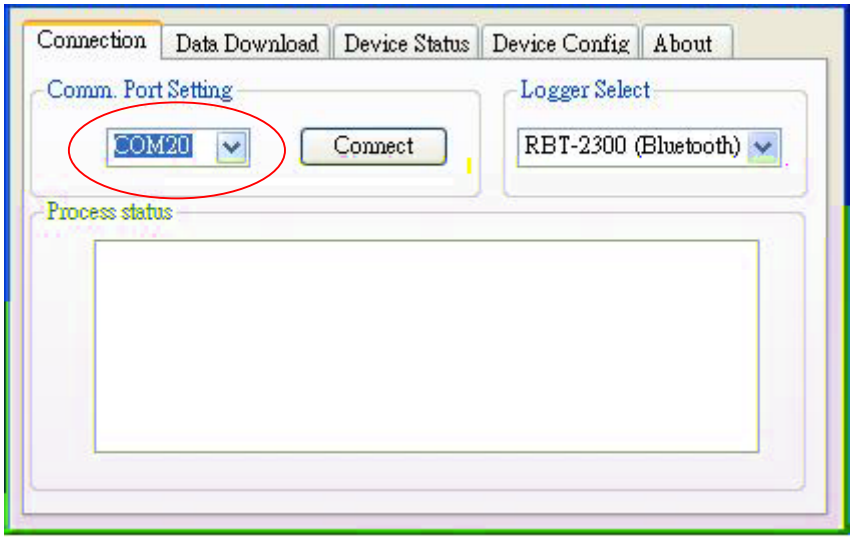



Step 3: Change page to “Connection” menu bar




Step 4:Select the BT COM Port. User should choose the BT port to connect.

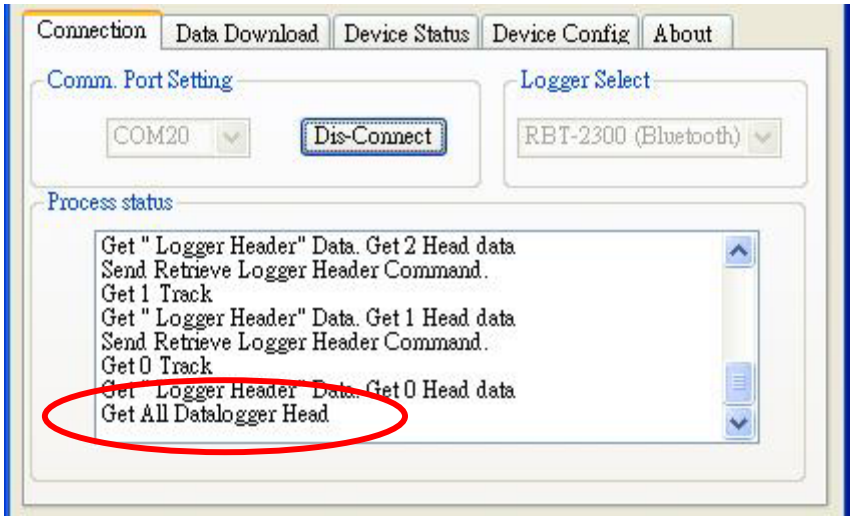
Logger Select. User should check the right logger to connect.




Step 5: Push the “Connect” Button

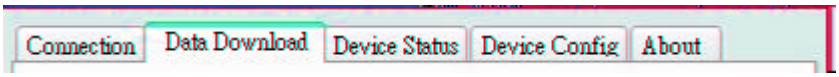
Step 6: Wait the “Get All Datalogger Head” finished then change to the “Data Download” menu bar

**If you don’t want to download the logger data, please choose the “Dis-Connect” button**

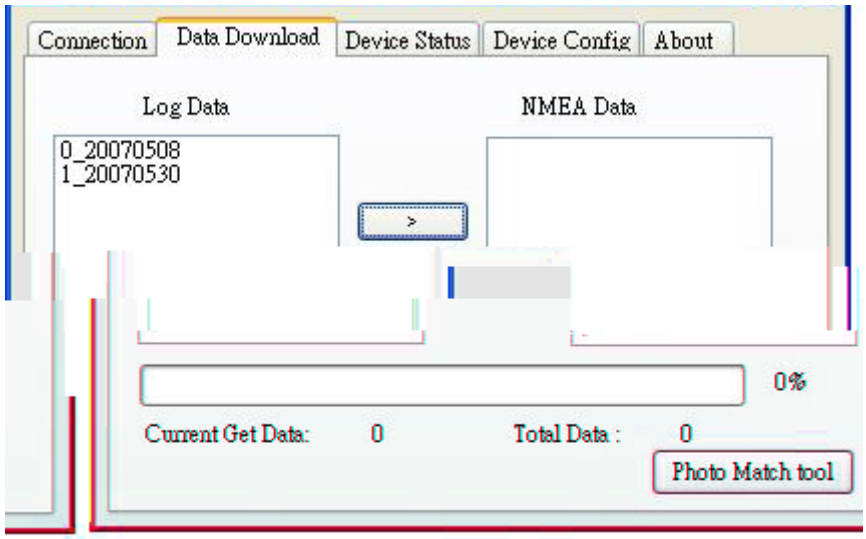



### 7.2.2 Download Data

Step 1: Change page to “Data Download” menu bar



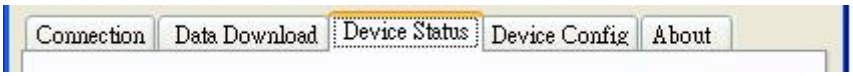

Step 2: Select the download data items, which you want to load from RBT-2300



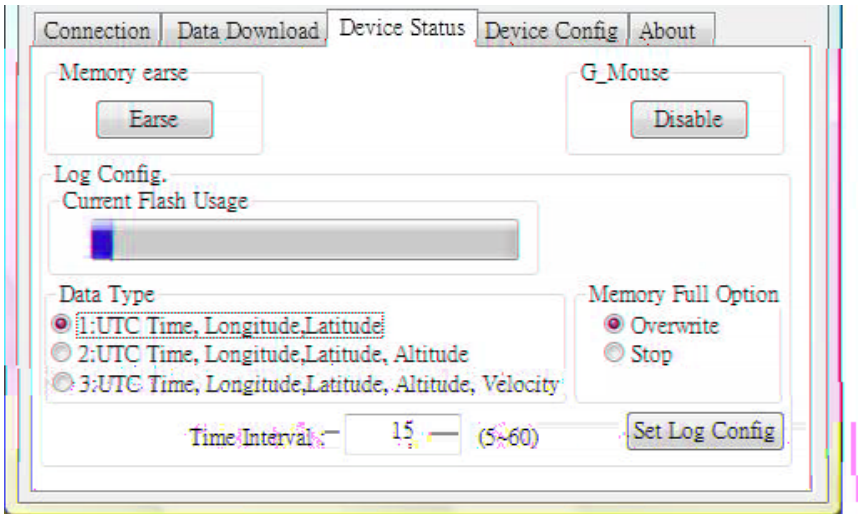

Step 3: Wait the get Data action Finish. Data from RBT-2300 was transferred to NMEA sentence.

### 7.2.3 Get and Set RBT-2300 Device Status

Step1: Change to “Device Status” menu bar




Step 2: You can review the RBT-2300 default setting configuration.




**◆Memory erase button**

Clear the memory data

**◆Time Interval (user adjustable)**

Default setting is 15secs

5secs ~ 60secs, user adjustable

**◆Data Type (user adjustable)**

There are 3 options for user to choose these data items to be saved in the RBT-2300.

**1:** UTC Time, Longitude, Latitude, will be saved.

**2:** UTC Time, Longitude, Latitude, Altitude, will be saved.

**3:** UTC Time, Longitude, Latitude, Altitude, Velocity will be saved.

**◆Memory Full Option (user adjustable)**

The default memory operation setting is “overwrite”.

If the memory is full then the system will erase the oldest sector.

**◆G-Mouse button (user adjustable)**

Default is GPS Mouse Disable.

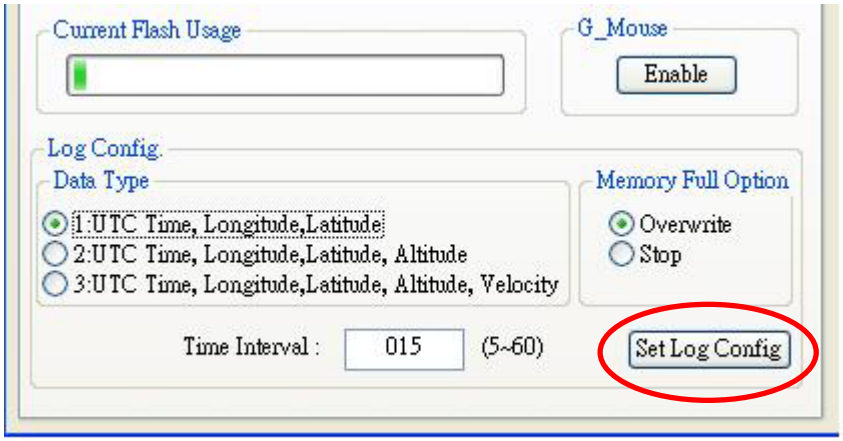
You also can use RBT-2300 as the GPS Mouse. RBT-2300 will not

output any NMEA message after power ON. You can use G_Mouse "Enable" button to let the RBT-2300 output the NMEA sentence. If you need to use RBT-2300 as a G-Mouse, just enable the G_mouse function then close the "Data Downloader Utility". Use the navigation program and set the Com port to 115200.n.8.1

**◆Current Flash Usage**

This bar only shows the rough current flash usage status. You should check the LED to see if the flash is full.

Step 3: User adjustable: Memory Full Option, key in the Time Interval and G-Mouse Enable/Disable Option

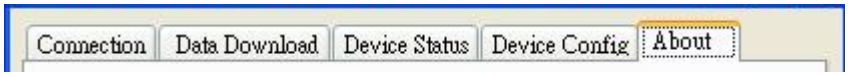



When you done the configuration setup, press the "**Set Log Config.**" button to save the setting to the receiver.

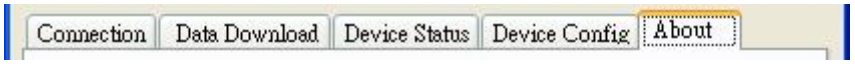
Finally, these setting take effect.

### 7.2.4 Get the Data Logger Data Downloader revision information

Step1: Change to "About" menu bar

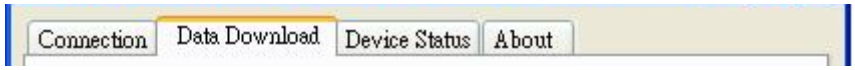



User can get the Royaltek Data Downloader program version.

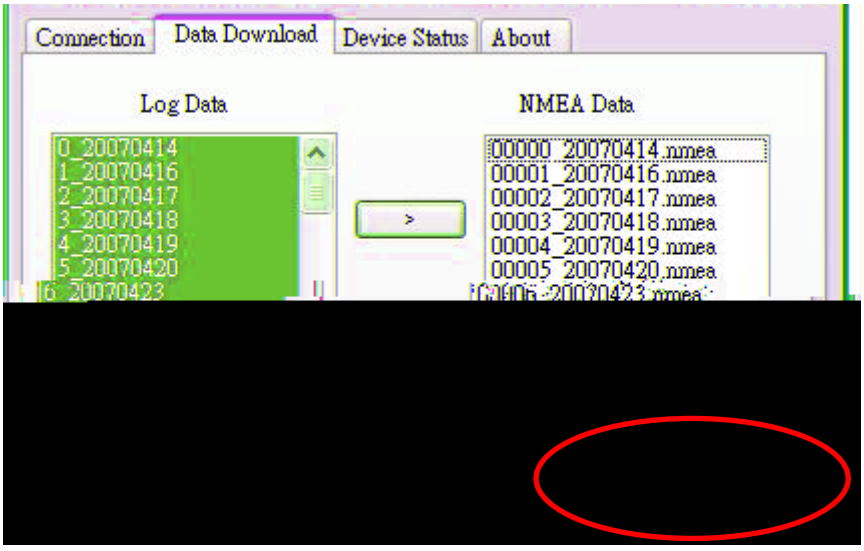



### 7.2.5 How to connect the Photo Match Tool

Step1: Change to “Data download” menu bar and Press the Photo Match Tool button




Step 2: You can connect to the Photo match tool




# 8.Explanation of GPS Terminology

**TTFF**

Time to first fix (cold start, warm start and hot start)

# 9. Photo match Tool -locr GPS Photo introduction

locr GPS Photo

**– Automatic Geotagging Made Easy –**

locr
locate your photos

**locr GPS Photo**
Quick Installation Guide

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# First steps ...

## How to sign up at locr

Signing up at locr is easy.

- To sign up for the **first time** open the locr web site: http://www.locr.com.
- Click on “Sign up”.

- On the next page, please fill the compulsory fields (with *).
- The Anti spam verification is obligatory, too.
  Therefore, in the list box please select the place name in the middle of the map.
- Click on “Create” to complete the registration.

Having successfully signed up locr will send you an e-mail.

You can change the password at any time.

**If you have already signed up, just click “Log in”.**

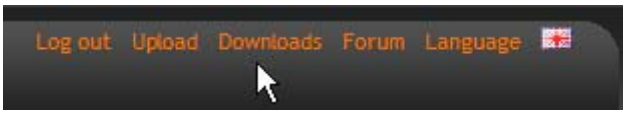
# How to install the locr GPS Photo software

If you want to download, install, and use the locr GPS Photo software you need an account and a password, so sign up (“How to sign up at locr”).

To install the locr GPS Photo software, you can download and open the installation program from the locr web site.

## Download and install the GPS Photo software from the locr web site

- On the locr web site (http://www.locr.com) click on “Downloads” and follow the instructions on the screen.




- To install the locr GPS Photo software, double-click the “locrGPSPhoto.exe” file.

- Follow the instructions on the screen.

# Geotagging with locr GPS Photo

To geotag your photos automatically you have to download and install the locr GPS Photo software.

# Manual or automatic geotagging?

There are two ways to geotag your photos: The photos can be tagged manually or automatically. For automatic geotagging you need a datalog GPS receiver in addition to your digital camera. If you want to view your geotagged photos on Google Maps, you have to be connected to the internet.

Tip: Geotagging adds information to your photos. Therefore, locr recommends
you to safe the original photos to a backup folder before geotagging them with the locr GPS Photo software!

# How to use manual geotagging

## Geotagging using the address

Geotagging using the address is an easy way to find out the position where a photo was taken.

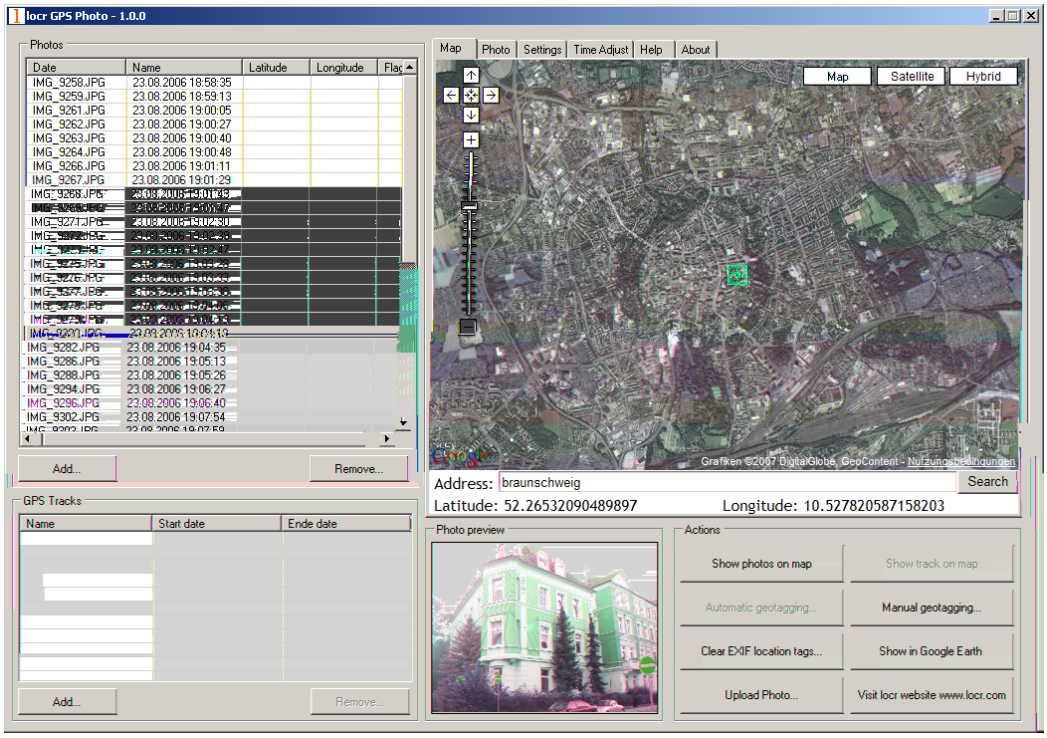
- Start the locr GPS Photo software:
  “Start” > “Programs” > “locr” > “locr GPS Photo”.
  On the left you see the “Photos” area.
- To open a photo, click “Add...” and select a photo/photos.
  Photos, which already contain GPS information will be flagged by an “x”, already uploaded photos by a “u”.
- In the list choose the photo/s you’d like to geotag.
  You will see the photo in the “Photo Preview”.
- If you know exactly where the photo had been taken, enter the address and click “Search”.

  Address can be:
  - Street, number, city, country, ...
    *Example: Kurfürstendamm 12 Berlin Germany*
  - Geographic locations, country
    *Example: Zugspitze Germany*

**Please note:** The correct order is important, whereas a comma is not needed between the search criteria.

**Tip:** If a location cannot be found, omit the street information. Or, in addition, specify the country. If you specify the country, you should always use the English spelling. Doing so, the location will be found reliably.
If you are not sure of the right English spelling, there is a simple trick to find out. Have a look at the FAQ topic “Some address cannot be found. What can I do?” on the locr web site.

- For final adjustment you can use the mouse to move the map. Drag it to the desired position. The crosshairs should be in the middle of the map.
- If necessary, zoom in/zoom out the section of the map, or select another view: map, satellite, hybrid (satellite view with locations).
- Then click on “Manual Geotagging” to save the new information. The marker will be set right in the middle of the map.




- Clicking the “Show Photos on Map” button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast internet connection.
- The “Clear EXIF location tags...” button allows you to delete the latitude and longitude information. Caution: The information will be deleted for all photos, not only for the selected one/s!
- To view the photos in Google Earth, first click the “Show in Google Earth”, and then the “Yes” button.
- Now select the photo/s you want to upload and click the “Upload Photos” button.
- At least determine the privacy status, click “OK”, and then have a look at the locr web site.

**Please note:** Uploading the photos may take a while.

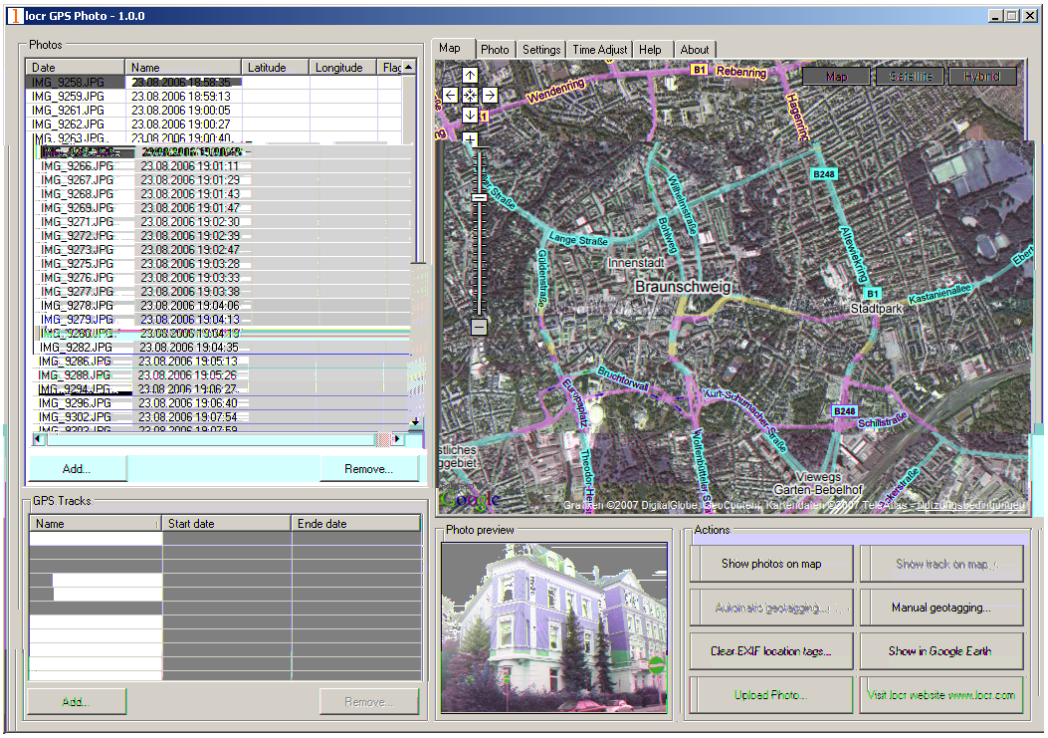
## Geotagging via “zoom and click”

Sure, geotagging using the address is the easiest way. But if you do not know the exact address, or rather prefer to look, where the photo may have been taken, do the following:

- Start the locr GPS Photo software:
  “Start” > “Programs” > “locr” > “locr GPS Photo”.
  On the left you see the “Photos” area.
- To open a photo, click “Add...” and select a photo/photos.
  Photos, which already contain GPS information will be flagged

by an “x”, already uploaded photos by a “u”.

- In the list choose the photo/s you’d like to geotag. You will see the photo in the “Photo Preview”.
- Zoom to the position where the photo has been taken.
- If necessary, select another view: map, satellite, hybrid (satellite view with locations).
- The located position should be in the middle of the map’s section.




- Click the “Manual Geotagging” button to save the new information.
- The marker will be set right into the middle of the section of the map.
- If necessary, you can drag the marker to the desired position for a final adjustment, and click “Manual geotagging” again.
- Clicking the “Show Photos on Map” button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast internet connection.
- The “Clear EXIF location tags...” button allows you to delete the latitude and longitude information. Caution: The information will be deleted for all photos, not only for the selected one/s!
- To view the photos in Google Earth, first click the “Show in Google Earth”, and then the “Yes” button.
- Now select the photo/s you want to upload and click the “Upload Photos” button.

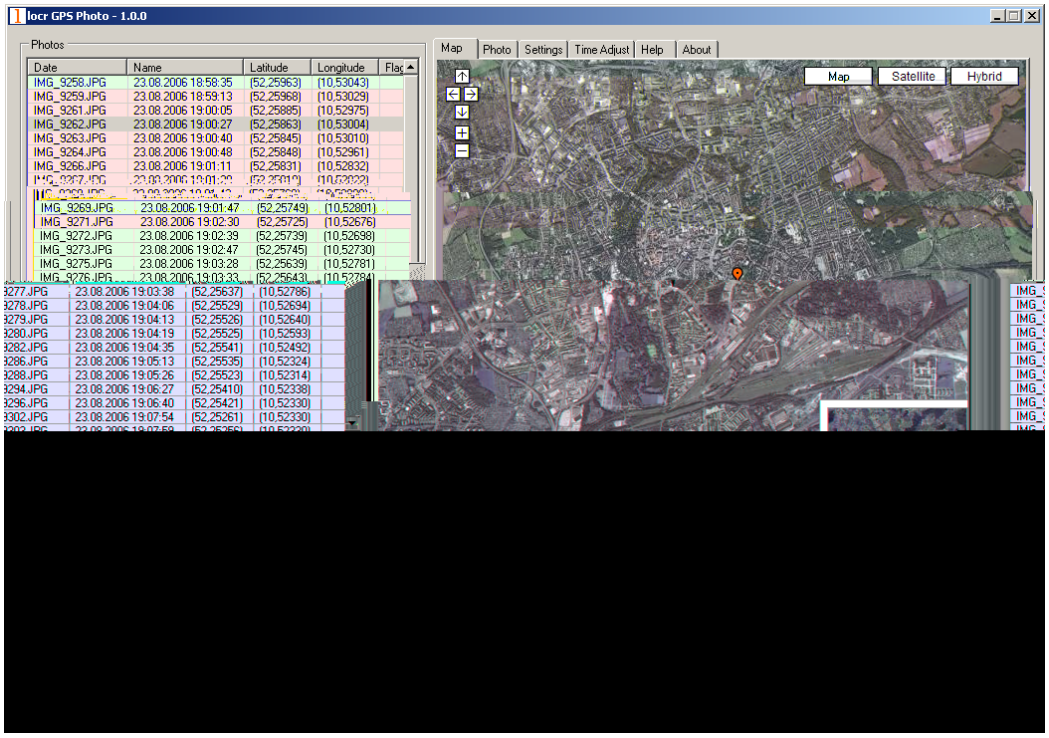
- At least determine the privacy status, click “OK”, and then have a look at the locr web site.

**Tip:** Double-clicking the left mouse button (zoom in), or double-clicking the right mouse button (zoom out) makes zooming much faster.

## How to use automatic geotagging

- Connect the datalog GPS receiver to your PC.
- Start the locr GPS Photo software:
  “Start” > “Programs” > “locr” > “locr GPS Photo”.
  On the left you see the “Photos” area.
- To open a photo, click “Add...” and select a photo/photos.
  Photos, which already contain GPS information in the EXIF header, will be flagged by an “x”, already uploaded photos by a “u”.
- Now, you need the GPS information. In the “GPS Tracks” area click on “Add...” to read the needed files from the datalog.
  Matching photos will be marked green and the calculated latitude and longitude will be displayed in “()”.

The position (latitude/longitude) has **not yet** been written into the EXIF header. This will **only** happen if you click the “Automatic geotagging” button.




- Then click “Automatic Geotagging”.
  The locr software now automatically completes the given photo data with the GPS information. The information will be written into the EXIF header, the “()” in the “Latitude” and “Longitude” columns will disappear.
- Clicking the “Show Photos on Map” button, shows your photos in combination with their position on the map. Note: To show the position on the map, locr uses Google Maps, which means you need a fast internet connection.
- The “Clear EXIF location tags...” button allows you to delete the latitude and longitude information. This button is helpful in combination with the “Time Adjust” option (see page 9).
  Caution: The information will be deleted for all photos, not only for the selected one/s!
- To view the photos in Google Earth, first click the “Show in Google Earth”, and then the “Yes” button.
- Now select the photo/s you want to upload and click the “Upload Photos” button.
- At least determine the privacy status, click “OK”, and then have a look at the locr web site.

**Please note:** Uploading the photos may take a while.

# Further Settings

## The “Settings” tab

### Show large map control

If you select the “Show large map control” option, all zoom & pan controls will be displayed: the complete zoom buttons ( , , ) as well as all pan buttons ( , , , , .).

Note: A change of the map control option will only take effect after a map’s reload.

### Show small map control

The “Show small map control” only displays the reduced zoom & pan controls: , , and , , , .

Note: A change of the map control option will only take effect after a map’s reload.

### Show overview map control

Activating the “Show overview map control” check box brings up the small overview map in the downright edge of the map.

Note: A change of the map control option will only take effect after a map’s reload.

### Upload a resized copy of the original photo

During the upload your photos will be uploaded with a maximum resolution of 1024 pixels as default. This accelerates the upload procedure!

If you’d like to upload your photos with maximum quality and resolution, you’ll have to **de-**activate the “Upload a resized copy of the original photo” option in the “Settings” tab.

## The “Time Adjust” tab

You made a lot of shots, used a datalogger, uploaded the photos and the GPS file, but after the automatic geotagging with the locr GPS Photo software the displayed positions seem to slightly wrong?

May be you forgot to set your camera time correctly. **Before**

- Start the locr GPS Photo software.
- Open the respective photos and the associated GPS file/files.
- If your photos already contain GPS information in the EXIF header (Flag = “x”), that seem to be “wrong”, use the “Clear EXIF location tags…” button to delete these information.
  Caution: The information will be deleted for all photos, not only for the selected one/s!
- Select the “Time Adjust” tab.
  “System time” displays the current system time of your computer.
- Use “Days”, “Hours”, etc. to set the “Camera time” according to the time displayed on the camera, with which your photos were taken.
  Based on this time correction an exact positioning can be made.
- Click the “Automatic Geotagging” button.
  The calculated position will be taken over. It will be written into the EXIF header automatically, and will be saved on your hard disk as a part of the photo.

**Important note:** For an exact calculation of the position during the automatic geotagging you should **always** set and keep the camera time set according to the system time of your computer – *regardless, where you are driving or flying to!*

# The locr GPS Photo software and Google Earth

To be able to view locr photos in Google Earth, Google Earth has to be installed on your computer.

No matter whether you use the locr website, or the free locr GPS Photo software for geotagging, the information on the position (longitude and latitude) is saved. In order to position the photos correctly Google Earth needs exactly this information.

For data transfer with Google Earth locr uses the KML file format.

To view the photos on Google Earth, first click the “Export to Google Earth”, and then the “Yes” button.

# Zoom in, zoom out, move map - the easiest way

Basically you can use either the buttons of GoogleMaps or the mouse solely. Zooming and panning using the mouse or the buttons can be used on the locr website as well as with locr GPS Photo.

## Zooming and panning with the mouse

- **Zooming in / magnifying the map**
  *Double-click* the left mouse button. The map view will be enlarged around the cursor.
- **Zooming out / de-magnifying the map**
  *Double-click* the right mouse button. The map view will be reduced around the cursor.
- **Moving the segment of the map**
  Press *left* mouse button, *keep it pressed*, and, at the same time, move the segment of the map into the desired direction.

## Zooming and panning using the buttons

- **Zooming in / magnifying the map**
  Mouse click the Magnifying button. The map view will be enlarged.
- **Zooming out / de-magnifying the map**
  Mouse click the Minimize button. The map view will be reduced.
- **Moving the segment of the map**
  Mouse click on one of the respective buttons: , , , . The visible section of the map will be moved left, right, up, or down.

**Note:** You can also zoom using the scroll wheel of your mouse - if you mouse has a scroll wheel. Try out. Exception: the overview page (Photo, Map, More information, More photos) does not allow zooming with the scroll wheel. There you scroll within the page instead.

# Uploading photos with geo information

You have lots of geotagged photos with the exact geo coordinates? The respective coordinates are stored in the EXIF header of your files?

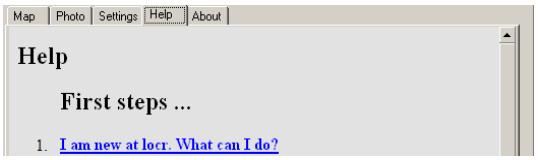
Great: So you don´t have to geotag your photos manually again!

The information will be read automatically when uploading the photo via the
locr GPS Photo software. Your photo will be displayed with the exact position on the map. If you want to know more about the place where the photo was taken, just have a look at the Wikipedia articles which are also automatically assigned to the picture on the locr website.

**Note:** Uploading photos is only possible if you have signed up, or are logged in. You haven't signed up yet? Have a look at "How to sign up at locr".

## Help (FAQs)

In case you need some help or find some answers, simply click the "Help" tab and you will find a comprehensive list of FAQs (**F**requently **A**sked **Q**uestions).



# I have a question …

## What does “Geotagging” actually mean?

The term “geotagging” is sometimes also referred to as “geocoding”.

Using “geotagging” e.g. photos, or videos, can be complemented with geographical coordinates (latitude and longitude, or physical address). This geographical identification data is saved together with the photos. Thereby photos can be assigned easily and explicitly to maps like GoogleMaps, or can be viewed on Google Earth.

Via the **locr web site** the coordinates are determined by manual geotagging. Together with the respective photo they are stored in the locr data base.

The **locr GPS Photo** software works differently. No matter whether the coordinates have been associated using manual or automatic geotagging, the information is written into the EXIF* header of the photo. Suitable software can read and use this information.

## What is a datalog GPS receiver and how does it work?

A datalog GPS receiver is a device, which - as long as it is switched on - continuously receives and logs (stores) data concerning its current position.

The operating mode of a datalog GPS receiver is based on the principle of the global satellite-based positioning system (GPS).

### GPS

**GPS** (**G**lobal **P**ositioning **S**ystem) uses satellites that permanently emit their changing position and time. On the basis of this information global positioning can be generated.

### GPS receivers

Based on the information emitted by the satellites GPS receivers generate their own position. Therefore they need the signals of at least three satellites.

### Datalog GPS receivers

Contrary to a “pure” GPS receiver the datalog GPS receivers store the

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* **E**xchangeable **I**mage **F**ile **F**ormat. Specification created by the Japan Electronic Industry Development Association (JEIDA) for the image file format used by digital cameras header of the photo.

received data to an internal memory. Being switched on, datalog GPS receivers start writing the position, date, and time into a log file. This logged data can be read and saved on e.g. a PC. So the data is also available for other applications like the locr PGS Photo software.

**Note:** Different datalog GPS receivers create log files in different formats. How these files can be used with locr GPS Photo is explained in the FAQs: “Which GPS datalogger can I use for automatic geotagging anyway?”

# FCC Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

# Revision History

| Data | Revision | Note |
|---|---|---|
| July, 2007 | V1.0 | Final Release |

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